



LIBRARY

OF THE



MASSACHUSETTS
AGRICULTURAL
COLLEGE

Per
Am328

5m-12-29, No. 7461 v.14. 1883.









THE
AMERICAN FARMER,
CONTAINING
ORIGINAL ESSAYS AND SELECTIONS
ON
AGRICULTURE, HORTICULTURE,
RURAL AND DOMESTIC ECONOMY,
AND
INTERNAL IMPROVEMENTS,
WITH
ILLUSTRATIVE ENGRAVINGS AND THE PRICES OF COUNTRY PRODUCE.

GIDEON B. SMITH, EDITOR.

*"O fortunatos nimium sua si bona norint
Agricolae."*..... VIRGIL.

VOL. XIV.

Baltimore:
PUBLISHED BY I. IRVINE HITCHCOCK.
JOHN D. TOY, PRINTER.
1833.

Per

Am 328

V. 14 1833

CONTENTS OF VOL. XIV.

A.

- AGAVE AMERICANA, notice of its use in cerdage, 101.
- AGRICULTURAL ADDRESS, by James Merrill, 330.
- EXCURSION, by the Editor of the Southern Agriculturist, 154. 186. 218. 250.
- EXHIBITIONS, by R. K. Meade, 402.
- INTEREST, neglected by newspapers, 129.
- SOCIETY, reports to the Massachusetts, by M. Allen, 122. By Peter Thacher, 150. Address to the Essex, 170. 173. Report on best cultivated farms, 171. 202. Recommended by R. K. Meade, 212. Berkshire, notice of, 250. Fredericksburg, remarks on the address to, 305, 306.
- PAPER, a new one proposed in Lower Virginia, 243.
- AGRICULTURE, on the improvement of southern, 4. In Virginia, 76. State of, 187. State of, in Alabama, 217. By Gov. Marcy, 361. Fireside reflections on, 410.
- AITON, Wm. on perpetual pastures, 203.
- ALABAMA, state of Agriculture in, 217.
- ALFALFA, or Spanish clover, lucerne, 108. Sent by Philo White, 153. By the Editor, 181.
- ALLEGANY COUNTY, Md. brief notice of, 311.
- ALLEN, Rev. Morrell, on the mixture of soils, 234.
- AMARYLLIS FORMOSISSIMO, notice of, 51.
- AMERICA, an English work, notice of, 199.
- AMERICAN BLIGHT, by Robert Camell, 31.
- AMERICAN FARMER, notice of, 137. Removal of the office, 241. Improvements in, suggested, 242. Close of the fourteenth volume, 409.
- AMERICAN FLOWER GARDEN DIRECTORY, notice of, 73. 341.
- ANGORA CATS, described by Com. Porter, 145.
- ANEMONIES, remarks on, by D. T. 277.
- ANTS, method of destroying, 33. 127. 175.
- APPLE DUMPLINGS, how to make, 393.
- APPLES, how to preserve, 289. Remarkable bunch of, 321. A large one, 327.
- ARACACHA, notice of the Editor's experiment with, 1. Result of an attempt to cultivate, by the Editor of the Southern Agriculturist, 5. Notice of the Editor's experiments, with remarks on Mr. Lowell's article, 155. Some notice of, and the efforts, to introduce it, 191.
- ARROW ROOT, Obateian method of preparing, 343.
- ARTICHOKE, Jerusalem, 227.
- ASHES, and lime, good top dressing, 76. Leached, for manure, 99. And soot, good for turnips, 189.
- ASPARAGUS, cultivation of, 113. By R. Sinclair, 385.
- AUGUST, remarks on the month of, from Howitt's Book of the Seasons, 215.
- AUTUMNAL FRUITS, why more crude than summer, 157.

B.

- BACON, curing, recipe for, 138. Preservation of, 238.
- BAHOCA, (bejuco,) vegetable curiosity of Cuba, 217.
- BAKED BEANS, recipe for, 207.
- BARBERRY, its fruit makes good rob, and its character, 393.
- BARCLAY, J. T. on the culture of silk, 165.
- BARKING the stems of fruit trees, 31.
- BARLEY, why freed of its bran, 215. And peas, culture of, 282. Culture, two crops of, in Maryland, 369.
- BARN, a cheap and economical one, 79.

- BARNITZ, C. A. his account of the beef of the Durham Shorthorn cow Ruby, 41.
- BAYBERRY, or wax-bearing myrtle, notice of, 222.
- BEDFORD breed of hogs, 182.
- BEDROOMS, why flowers should not be kept in, 229.
- BEE, hives in garrets, 55. Moth, best method of destroying, 245. 282. 343.
- BEEF, Durham Shorthorn, by C. A. Barnitz, 41. Market in New York, 143. Sales of, in Massachusetts, 281.
- BEER, hop, how to make, 39.
- BEEES, curious fact in their economy, 57. Injured by the winter, 87. Time of swarming, 137. Sting of, 199. Destruction of, by toads, 271. Management of, 318. Cultivation of, 361. 365. Remarks on, 391.
- BEE CATCHER, or king bird, 169.
- BEEES, red, for horses and cattle, 110. Amber, sugar made from, 292. Remarkable one, 321.
- BIRD, the largest in the world, 207.
- BIRDS, destruction of, 7.
- BLACK, how to color, 405.
- BLACKHEAD, in wheat, 113.
- BRIGHT, American, in trees, by Robert Camell, 31.
- BLINDNESS, in horses, by R. R. Harden, 14.
- BLIND STAGGERS, in hogs and Horses, by R. R. Harden, 134. By J. C. Robertson, 191.
- BOTANICAL NAMES, their propriety, 17.
- BOTANY, Domestic, of the District of Columbia, 65.
- BOTS IN HORSES, by J. Dickinson, 4. By John Smith, 38. Prevention of, 271. By R. R. Harden, 284. Remarks on, 305.
- BOX WOOD, used in Paris for making beer, 95.
- BRAZILIAN FRUIT, notice of, 118.
- BREAD, economical, 182. A substitute for milk in making, 207. Brown, 207. To make good wheat, 393.
- BREEDING principles in animals, 273.
- BUCKINGHAM FARMER, reflections on agriculture by a, 410.
- BUDDING, or inoculation, of fruit trees, 197.
- BUEL, Judge, evening at his house, 43.
- BUFALO BERRY, the yellow, seeds of, received from Major Sanford by the Editor, 25. Description of, 269. Inquiry, 373.
- BUGS, on vines, inquiry for a remedy for, 89. In peas, 118. To destroy, 125. Boxes to prevent, 295.
- BUSHES, eradication of, 181.
- BUTTER, suggestion in making, 62. Its manufacture at Judge Buel's, 64. Making and curing, 90. To preserve, 134. And cheese, report on, at Brighton, 275. New mode of making, 327. Difference of, on different farms, 334.
- BUTTER TREE, of Africa, 357.

C.

- CABBAGE, why considered wholesome, 262.
- CABBAGE TREE, of Lapland, 125.
- CABELL, N. F. on the Cunningham and Woodson grapes, 325.
- CAKE, fancy, how to make, 334.
- CALCAREOUS MANURES, notice of Ruffin's Treatise on, 113. Extract from, 114. Notice of, 115.
- CALF, a fine one belonging to the Editor, 185. Recipe for fattening—a quiz, 193.
- CALOPOGON PULCHELLA, a beautiful native flower, 129.

- CALORIC, experiments on, 393.
- CALVES, troubled with looseness, 169. Feeding for veal, 206.
- CARAVANZAS, chick-peas, sent by P. White, 153. By the Editor, 161.
- CARNATION, culture of, 294.
- CARR, Robert, presents petre pears, 241.
- CARROTS, the blood, the best variety, 185. Their value for stock, 396.
- CARROT-SHOW, Burnopfield, 373.
- CASTOR OIL, improvement in making, 246.
- CATAWBA GRAPES, presented by R. Sinclair, 241.
- CATTLE, on training, 7. Prize, in England, 15. Feeding, 54. Smithfield cattle show, 94. Feeding, 119. Durham Shorthorn, letter of R. K. Meade, and report of committee, with remarks by R. K. Meade, 182. Feeding, 207. Salt for, 233. Hoven in, recipe for, 239. Fine, in Chester county, 247. Disease in, at Kipp's Bay, 273. In England, 321. On watering, 350. Feeding, 375.
- CATTLE SHOW, Brighton, report of, 274. Report of the Middlesex, 333. Of the Worcester, 343.
- CATTLE YARDS, construction and management of, 137.
- CATS, Angora, described by Com. Porter, 145. Hybrid, by N. Herbemont, 238.
- CAULIFLOWERS, notice and culture of, 332.
- CELERY, cultivation of, 130.
- CEMENT, fire proof, French mode of making, 89.
- CHARACTER, letters of, remarks on, 385.
- CHEAP, or chess, on its being the offspring of injured wheat, by J. Dickinson, 4. By Thomas Rowan, 4. By N. Herbemont, 26. By a Gleaner, 35. By Middle Virginia, 36. What is cheat or chess, by David Thomas, 42. By E. R. 45. By the Editor, 57. By Dr. Muse, 58. By R. K. Meade, 67. By the Editor, 81. By R. R. Harden, 82. By the Editor, 89. By a Gleaner, 92. By a Gleaner, 116. By the Editor, 121. By J. H. Craven, 123. By E. R. 124. And darnel, by the Editor, 137. By T. Emory, 140. By J. F. Conway, 164. By Rufus McIntire, 188. From the Genesee Farmer, 212. Method of destroying, 226. And darnel, by Fair Play, 242. By B. with remarks by the Editor, 249. Premium offered for proof of, 244. By the Editor, 249. And darnel, by E. R. 274. By Senex, 276. By the Editor, 289. By Gov. Ogden, 290. By David Thomas, 290. Remarks on, 341. 388. 395.
- CHEESE, Still, how to make, 86. Cheese making, 92. At the Brighton show, 275.
- CHEMISTRY, agricultural and horticultural, 348.
- CHENOPodium QUINOA, a new and delicious spingene, 89.
- CHESS, see cheat.
- CHESTNUTS, experiments in planting and cultivating for timber, 327.
- CHICKENS, hatched by the cock in Mexico, 262. Hatching, artificially, 393.
- CHICK-PEAS, cicor arietinum, a delicious article, 185.
- CHINESE MULBERRY, new, morus multicaulis, 81. 105.
- CHLORINE GAS, its disinfecting power, and how to make, 111.
- CHOKING, of cattle, with turnips, &c. remedy for, 31.
- CHOLERA, notice of, 129.
- CHRYSANTHEMUM INDICUM, on its cultivation, 214.

CHRYSEMELA VITIVORA, its depredations on the vine, and an experiment with, by D. T. 191.

CIDER, to make artificial, 14. Remarks on the manufacture of, 238.

CITRON, artificial, recipe for preparing, by Miss Barnitz, 191. Melons, to preserve, 334.

CLAY, Henry, on the culture of hemp, 362.

CLOVER, remarks on the culture of red and white, 146.

CLOVER RICKS, by Jacob Hollingsworth, 116.

CLOVER SEED, on raising, 340.

COCOONS, silk, exhibited at New York, by Miss Parmentier, 270. Color of, not attributable to the food, 357.

COLMAN, Henry, his address to the Essex Agricultural society, 170. 178.

COLOMBIA, extracts from Hamilton's Travels in, 405.

COMET, notice of Belas, 319.

COMPOST, for pots, how to make, 83.

CONVOLVULUS, dwarf, notice of, 137.

CORK TREE, stock of, presented by General Forman, 169.

CORN, new mode of cultivating, by J. and M. Pratt, 9. Harvesting, 12. Cultivation of, 36. Use of plaster on, 49. Steeping in copperas water, 59. Culture of, 66. Planting of, 75. A fine variety of green, 155. Extracts from Gerard on, 247. Red cob of Pennsylvania, 148. Large ear, 262. And potatoes, culture of, 283. Stalks, with seven ears, presented by C. T. Maddox, with remarks by the Editor, 297. Peculiarity of, in new land in Ohio, 329. Culture of, by A. B. Megginson, 356. Culture of, in Tennessee, 379. Culture of, with the plough, 394. Premium crops of, 395. Rhyme on planting, 113. Its native country, 134. Singular fact, in relation to, 193. Culture of, 411.

CORN STALKS, on cutting, 12. Cutting, 196.

COTTAGE FLOWER GARDEN, notices of flowers, 81. 97. 129. 137. 177.

COTTON, amount annually imported into Providence, 59. Time of planting, 202. Georgia and Alabama crops, 281. Picking, in North Carolina, 295. Culture of, in Mississippi, 324. New species of, 349. Of Peru, by Philo White, 369. Rust in, 378. Culture of, Tennessee, 379. Naked seeded, 401.

COW, the Devon, notice of her death, 121.

COVS, improved, notice of, 121. Fine milch, 207. Durham, 207. Management of, 223. A fine one, 353.

COW PEAS, culture of, by W. G. Read, 229.

COW WASH, advantage in using, 332.

CRANBERRY, cultivation of, 119. May be preserved many years, 267.

CROPS, rotation of, 244. To raise three, from one ploughing, 340. Adapting to the soil, 364.

CUCUMBER, new method of raising, 126.

CUNNINGHAM, and Woodson grapes, presented by Dr. Norton, 257. By N. F. Cabell, 325.

CURCULIO, its habits, 94. By D. Thomas, 125.

CURDS, and whey, how to make, 335.

CURRENT, splendid new species, 197.

CUTTINGS, culture of annuals by, 294.

CYPRESS TREE, a magnificent one, 38.

CYPRIPEDIUM, the various species, by D. T. 174.

D.

DAHLIA, remarks on, by the Editor, 177. 225. Sketch of its history, 269. 277. Exhibited in New York, 270. Presented to the N. Y. Commercial, 231. Varieties of, 300. 308.

DAIRY, from the Library of Agricultural and Horticultural Knowledge, 90. 98.

DARNEL, a specimen sent to the Editor by E. R. 124. And Cheat, by the Editor, 137. By T. Emory, 140. By Fair Play, 242. And Cheat, by R. 274.

DEVON COW, death of a fine one, 121. Cattle, sale of, 233.

DIALOGUE, between a city officer and a horticulturist, 413.

DICKINSON, John, on Cheat, 4.

DISEASOUS PLANTS, remarks on, 273.

DISEASES in horses, 23. In sheep, 31. 39. 54. In hogs and horses, 134.

DRAINING wet land, its importance, 339. 361.

DRILL, and broad cast system, comparative views, 92. Description and drawing of, 308.

DROUGHT, stirring ground in, 129.

DUNG, remarks on, 394.

DURHAM Shorthorn beef, presented to the Editor, by Charles A. Barnitz, with the weight, &c. of that of the cow Kuby, 41. Letter on, by R. K. Meade, report of a committee, with remarks, 162.

DWARFING trees, 12.

E.

EARTHS, nature of, 167.

EATON, professor, on the application of geology, as the basis of agriculture, 210.

ECONOMY, habits of, 351.

EDITORIAL head, notice of a change of, 1. — address, on the commencement of the 14th volume, 1. Remarks on the close of do. 409.

EGG PLANT, a large one from Orange farm, 249; another, 257.

EGGS, why used for clarifying, 7. How to preserve, 49.

EHRMANN, C. on American wine, 265.

EMORY, Col. T. on cheat and darnel, 140.

EPITHALAMIUM, by Brainard, 231.

ERIGOT, or spurred rye, caution against, 361.

EVENING PRIMROSE, dwarf white, 137.

EVENINGS, coming, lines on, 319.

EXCHANGE PAPER, proposals to, 289.

EXOTIC PLANTS, various kinds of, by D. T. 222.

F.

FALLOW CROPS, the use of, 387.

FALLOWS, summer, remarks on, 179. Advantage of fallow crops over, 205.

FARM, selection and management of, 347.

FARMERS, Gen. Humphrey's, advice to, 187. Hint to, 356. Hints to, 363. 415.

FARMER OF LAGRANGE, Lafayette, letter from, 353.

FARNER, a complete one, 275. Theoretical and practical, 291.

FARMING, several systems of, by an Eastern Shore Farmer, 34. Profit and expense of, 341.

FARMS, best cultivated, reports on, 122, 130, 202. Size of, 379.

FARMS, size of in New England, 124.

FARM SCHOOL, subscription for establishing one in Boston, 33. Notice of one in North Carolina, 241.

FEAST, Samuel, on the rare or rose tree sent by Com. Porter, 169.

FEEDING CATTLE, 54, 119.

FENCES, a durable one, 265. The cheapest and best, 375. Of pebble stone, how to make, 399.

FERN, why preferable to straw for layers between fruits, 15.

FIG, a cutting produced fruit, 247.

FILATURES, silk, on establishing, 353.

FILBERTS, English, to cultivate, 126.

FILTERING STONES, to purify water, 265.

FLAX, and chess, remarks on, 356.

FLIES, bugs, &c. to destroy, 125. To prevent their tazing horses, 193.

FLORICULTURE, hints on, 103.

FLORIDA, excursion in, 153.

FLOUR, improvement in its manufacture, 295.

FLOWER, the largest, in the world, 207. A remarkable one, with a request for some seeds, 209. A splendid one, 245. *Tholpis barbata*, 303.

FLOWER GARDEN, site, exposure, &c. 301.

FLOWER GARDEN DIRECTORY, American, notice of, 73, 341.

FLOWERS, wild, remarks on their neglect, 65. Thoughts on flowers, 73. Removing, 125. Interest of, 159. Should not be kept in bedrooms, 229. Exhibition of in New York, 270. Culture of, 302. Kept in cottagers' windows, 335.

FLY, in early sown wheat, 281.

FODDER, cheap, of straw, &c. 334.

FOOD, of plants, remarks on, 287.

FORCING fruits and vegetables, 13, 62.

FORMAN, Gen. T. M. presents stock of the cork tree, 169. On the male maclura, 241.

FOUNDER, in horses, Turkish cure for, 254.

FREDERICKSBURG, agricultural society of, remarks on Mr. Garnett's address to, 305. Mr. Garnett's address, 306.

FROGS, bull, destroy chickens, 321.

FRUITS, on forcing, 13. New ones received from Col. O'Fallon, 25. Damage to trees by the last winter, 30. Brazilian, 118. Fine gooseberries and cherries, 121. Autumnal, most crude, 157. Amelioration of, 364.

FRUIT, stone, worms in, by D. T. 181. Variation of, produced by seed, 397.

FRUIT TREES, destruction of by the winter, 70. Diseased, remedy for, 79. Injured by mice, 35. On planting by the Editor, 241. Canker in, 357. Protecting stems of in spring, 405.

FUCIA, its first introduction, 255.

FUNGI, their natural history, 383.

G.

GAMA GRASS, remarks on, 349.

GARDEN, the, third prize essay, by Calvin, 54. The matrimonial, 407.

GARDENS, robbing them, notice of, 17.

GARDENERS, their business injured by cholera, 247.

GARDENING, at sea, 128.

GARDEN SEEDS, duration of the vegetable principle in, 326. Delay in receiving by the proprietor, 337.

GARNETT, James M. his address before the Fredericksburg agricultural society, 396.

GEIGER, Abraham, on southern agriculture, 4.

GENTLEMAN, a hundred years ago, 49.

GEOLOGY, application of, by Professor Eaton, 210.

GINGER, a cure for heaves in horses, 405.

GINGER BEER, why most refreshing, 215.

GINGER NUTS, how to make, 359.

GOOSEBERRIES, and cherries, presented by J. McKim, Esq. 121. Bottled, 169.

GRAFT AND STOCK, on their reciprocal influence, by Dr. James Mease, 259. By Wm. Prince, 261.

GRAFTING, fruit trees, varieties successfully treated, 30.

GRAPES, culture of in cities, and injury from winter, 201. Notice of a couple of bunches of the sultana, from Dr. Monk, 217. Garden, culture of, 221. Powell or bland, 233. Catawba, presented by R. Sinclair, 241. Injury to vines, by N. Herbemont, 241. Answer to queries, 244. Isabella, a remarkable vine, 245. Native, Cunningham and Woodson, presented by Dr. Norton, 257. Isabella, wine from, 261. Cunningham and Woodson, by N. F. Cabell, 325. Scuppernon, 345. Mr. Herbemont's essay on, 377. 380. Varrenton, 393.

GRAPES, American, not subject to depredation from the rose bug, by L. U. 9. June grape, notice of, by J. O'Fallon, 25. Native grapes, described, 29. The Isabella, kept till spring, 95. Scuppernon, 129. Description and drawing of, 132. Isabella, a good one, 160.

GRASSES, best adapted to use, &c. 586.

GRASS SEED, remarks on sowing, 27.

GREEN-HOUSE PLANTS, management of, 45.

GRISCOM, S. S. his meteorological table for March, 55. For April, 87. May, 119. June, 150. July, 183. August, 239. September, 247. October, 287. November, 319. On frogs destroying chickens, 321. For December, 359. For January, 399.

GUUL AGHADJ, or rose tree, by Com. Porter, 145. Remarks on, by S. Feast, 169.

H.

HAMILTON, Col. J. P. extracts from his travels in Colombia, 405.

HARDEN, R. R. on blindness in horses, 14. On snake bites, 46. On hexagonal planting, culture of corn, &c. 66. On blind staggers in hogs and horses, 134. Bots in horses, 234.

HARD NAMES, in botany, their propriety, 17.

HAY PLANT, prangos, account of, 257.

HEADACHE, cure for, 383.

HEART, of a sow broken, 33.

HEAVES, in horses, ginger a cure for, 405.

HEDGE, best kinds of, season for setting, age of plants, &c. 29. Best shrubs for, 30. Sweetbrier, 71. Live, for New England, 85.

HEDGFORD, the fine horse purchased in England by Mr. Jackson, 193.

HEDYSARTM GREAS, notice of, 87.

HEMEROCALLIS FLAVA, notice of, 81.

HEIFER, gives milk before calving, 305.

HEMP, on its culture, 290. By the Editor, 361. By Henry Clay, 362.

HEMP, Sisal, reward for a machine for cleaning, 263. Grows in Georgia, and how to clean, 321.

HERBEMONT, N. on honesty the best policy, 21. On native ornamental plants, 173. On American wine, 233. On a hybrid cat, 238. On injury to grapevines, 241. Essay on wine and grapes, 377. 380. 388.

HEXAGONAL PLANTING, by the Editor, 9. By J. F. B. 25. By the Editor, 65. By R. R. Harden, 66.

HIBBERT AND BUIST, on the malo maclura, with remarks by the Editor, 225.

HICKORY, cords made from, 321. Bed cords, 355.

HINTS TO FARMERS, by B. 363.

HOGS, made to work in Illinois, 97. Blind staggers in, 134. 191. Bedford breed, 182. On choice of breeds and management, 209. On raising, in Georgia, 223. Improvement in, by R. K. Meade, 253. New food for, by the Shakers, 257. Large one in New England, 350. Parkinson breed—Bedford breed, 373. A great, 415.

HOLLYHOCKS, a substitute for hops, 244.

HONESTY IS THE BEST POLICY, second prize essay on Rural Economy, by N. Herbetmont, Esq. 21.

HONEY, large quantity found in a tree, 296. Method of obtaining, 303.

HOPS, culture of 54. 414.

HOP BEER, how to make, 39.

HORSES, bots in, 14. Diseases in, by "Middle Virginia," 23. Bots in, 38. Bots in, by R. R. Harden, 254.

Ginger a cure for heaves, 405. Blind staggers in, 134. 191. Hedgford, imported by Mr. Jackson, 193. To prevent being teased by flies, 193. Scouring in, 238. Yellow water in, 238.

Turkish cure for founder in, 254. Prevention of bots in, 271.

HORSECHENUT, useful in bleaching and washing, 103. For making paste, 169.

HORSERADISH, culture of, 270. 311.

HORTICULTURE, influence of, 281. Of Venao, 294. Experiment in, 294. Improvements in, 318.

HORTICULTURAL matter, excess of, apologized for, 257.

HORTICULTURAL SOCIETY, Pennsylvania, 156. N. York, 168. Of Charleston, address before, 227. 252. Recommended in Baltimore, 257. 271. 283. Address before Society of Monroe Co. 298. Officers of the Maryland, with remarks, 305. Exhibition of the Pennsylvania, 309. The Maryland, offer premiums, 345.

HOTBED, mode of making, 21. Construction of, 302. HOT HOUSES, heating by hot water, 37. 125. By hot air, 175.

HOT WATER, for heating hot and green houses, 37. 125.

HOUSEKEEPING in Germany, 183.

HOVEN, in cattle, recipe for, 238.

HUMPHREYS, Gen. his advice to young farmers, 197.

HYBRIDS, propagation from, 236. Cal, by N. Herbetmont, 238.

HYDRANGEA HORTENSIS, on changing its color, 102.

I.

IMPROVEMENT, of worn out land, extract of letter to R. K. Meade, 16. In the American Farmer, suggested, 242.

INDIAN PEAR, a new fruit, seeds of received by the Editor, from Col. O'Fallon and Major Sanford, 25.

INDUSTRY, advantages of, 225.

INFLUENZA, in Georgia, treatment of, 69.

INK, on extracting, from linen, 7. 9. Marking, how to make, 361.

INOCULATION, or budding fruit trees, 197.

INSECTS, to destroy flies, bugs, &c. 125. 167. The crysomela vitivora, 191. Habits of, 193. Soap-suds, an antidote for, 203. In peas, 404.

INSTINCT, in sheep, 25. Vegetable, 206.

IRON, preservation of, from rust, 104.

IRON PIPE, how to bend, 72.

IRRIGATION, Dr. Spofford's essay on, 156.

ISABELLA GRAPES, preserved till spring, 95. Their good quality, 169.

J.

JACKSON, Mr. purchases the horse Hedgford, in England, 193.

JOHNSON, C. W. on salt for agricultural purposes, 314. 322.

JOHNKIN, or Johnny cakes, origin of the term, 65.

K.

KENRICK'S new American Orchardist, 353.

KEYHOLE CATS, mystery explained, 145.

L.

LAFAYETTE, letter from, to Mr. Skinner, 353.

LAND, worn out, improvement of, 26.

LAVING, plants, &c. to propagate, 295.

LEAVES, for manure, 276. 297.

LEMON JUICE, why altered by keeping, 215.

LEMON SYRUP, receipt for making, 238.

LETTERS, to be addressed to the publisher, 1. Of character, remarks on, 385.

LIGHTNING RODS, how to put up, 255.

LILIES, remarks on, by D. T. 164.

LIME, its uses as manure, 27. And ashes, as a top dressing, 76. Inquiries relative to, 91. Inquiry how to burn, 193. As manure, by E. Ruffin, 266.

As manure, 379.

LIME WATER, for destroying worms, 25. 99.

LIVE FENCES, material for, 29. For New England, 85.

LIVERPOOL SALT, improper for butter, 38.

LIVE STOCK, importance of selecting best breeds, 391.

LOCUST, on the culture and value of, 13. Is the farmers' monitor, 49. Indicates the season of planting, 73. Culture of, 361. Its value and culture, 398.

LOSENING and pulverizing the soil, 52.

LUCERNE, its value and culture, 52.

M.

McCALL, Thomas, furnishes a table of the weather in Georgia for ten years, 33. On the Warrenton grape, 393.

McKIM, Isaac, presents gooseberries and cherries, 121.

MACLURA, male, letter from Hibbert and Buist on, with remarks by the Editor, 225. Letter from T. M. Forman, 241. Males and females produced from a female, 273.

MADDER, notice of its value as a crop, 121. Directions for raising, 144. Culture of, 220.

MALE AND FEMALE PLANTS, produced from a diocious plant, 273.

MANMOTH PUMPKINS, a new kind, 241.

MANDRAKE, or May apple, remarks on, 284.

MANGEL WURZEL, and sugar beet, culture of, &c. 50. 341. 413. Notice of, by the Editor, 185.

MANUFACTURES, of Rhode Island, 103. Domestic, report of the Brighton exhibition, 275.

MARKETS, foreign, 1. 25. 33. 49. 57. 65. 81. 97. 113. 121. 136. 152. 177. 201. 209. 225. 265. 273. 281. 289. 297. New York grain, 273. Foreign, 313. 345. 369. 393. 401.

MANURES, Dr. Hosack's mode of saving, 12. How to save the liquid of stable manure, 28. Plaster of Paris, 51. Straw useful for, 60. Calcareous, Ruffin's Treatise on, 113. Salt, 124. Economical management of farm yard, 211. On saving and managing, 226. Lime as, by E. Ruffin, 266. Leaves for, 276. By J. T. Jones, 291. Collecting, 291.

Salt used as, by C. W. Johnson, 314. Importance of, 315. 339. Stable, its nature, and how to preserve, 315. Marsh mud as, 355. Application of, 377. Remarks on, 379. Dung, 394.

MARKING INK, how to make, 361.

MARL, beds of, found in Virginia, 220. 282. By E. Ruffin, 331. Observations on, in reply to Mr. Ruffin, 354.

MARSHES, reclaimed, by John Welles, 259.

MARSH MUD, report on, as manure, 355.

MATRIMONIAL GARDEN, by T. Bridgeman, 407.

MAXIM, an old one contradicted, 305.

MEADE, R. K. on cheat or chess, 67. On Wool, 134. On Durham Shorthorn cattle, 162. Recommends an Agricultural Society, 212. Improvement of Sheep, 245. On the improvement of hogs, 253. On agricultural exhibitions, 402. Death of, 409.

MEADOWS, harrowing, when sward bound, 35. 49. Cleaning, 196.

MEASE, Dr. James, his experiments with the Chinese silkworms, 180. On the reciprocal influence of the stock and graft, 259.

MELON, winter, presented by Mr. Thompson, 329. Extraordinary one, 390.

MERRILL, James, his address, 330.

METEOROLOGICAL TABLE, for March, by S. S. Griscom, 55. For April, 87. For May, 119. For June, 151. For July, 183. For August, 239. For September, 247. For October, 287. For November, 319. For December, 359. For January, 399.

MICE, field, how to get rid of, 103. How to destroy, 207. Protection against, 332.

MIGNONETTE TREE, how to make, 206.

MILDEW, recipe for, 65.

MILK, nature and properties of, 9. Removing bad smells from, 192. Quantity consumed in London, 401.

MLK POWDER, how made, 247.

MISSOURI COUNTRY, notice of, 95.

MIXTURE OF SOILS, dissertation on, by Rev. Morrell Allen, 234.

MORUS MULTICAULIS, new Chinese Mulberry, 91. 105. Cocoons produced from, 270. Notice of, 289. 357.

MOSSY LANDS, remedy for, 60.

MOTH, bee, best method of destroying, 245. 262.

MOUNTAIN ASH, by D. T. 141.

MOUNTAIN RICE, inquiry about, 69.

MOUNT VERNON, the farmer of, 217.

MOUBRAY ON POULTRY, notice of, 137.

MULBERRY, new Chinese, Morus Multicaulis, 81. 105. Cocoons produced from, 276. Notice of, 289. 357.

MULBERRY LEAVES, dried and powdered for silk-worms, 237.

MUMMIES, plants found with, 405.

MURIATIC ACID, oxigenated, revives seeds, 263.

MUSE, Dr. Joseph E. on cheat, 58.

MUSHROOMS, culture of, 20. Caution to caters, 353. Why edible ones differ from others, 133.

MYRTLE, wax-bearing, notice of, 222.

N.

NAMES of vegetables, hard ones, 17.

NATIVE ornamental plants, 173.

NETTLE, why it stings, 143.

NEW ENGLAND FARMERS, character of, 39.

NIGER, extracts from a journal, 834.

NORTON, Dr. D. N. on the Supperpang grape, 132. Presents Cunningham and Woodson grapes, 257.

NOYEAU, oil of, 383.

NYPHHEA NELUMBO, notice of, 245.

O.

OAK LEAVES, the time and manner of gathering for manure, 297.

OATS, the Hopetoun, 332.

OFFSPRING, apt to assume the characters of remote ancestors, 273.

OGDEN, Gov. on cheat or chess, 290.

OILS, fixed, observations on, 86. From sunflower seeds, 191. Of noyau, 389. Sunflower, 409.

OIL STONE, specimen of, from Virginia, 137.

ONION BED, a profitable one, 7.

ONIONS, to preserve from sprouting, 83. Spanish, sent by P. White, 153. By the Editor, 161. White tree and potato, by the Editor, 177. On raising seed, 415.

OPIUM, impropriety of its culture in the south, 137. OPODELDOC, to make liquid, 321.

ORCHARD GRASS, best method of sowing, 401.

ORCHARDIST, Kenrick's new American, 353.

ORCHARDS, pruning, 373.

ORNITHOLOGY, new fact in, by D. T. 231.

OUT BUILDINGS, their construction, 383.

OX, an extraordinary one, 403.

OXEN, on training, 7. Anecdote of one, 49. Training, 102. Feed for, 103. Training, 207.

P.

PAINT, white, without lead or oil, 207.

PAPER, made from wood shavings, 72. Agricultural, a new one proposed in Lower Virginia, 243.

PARSNIPS, culture and use of, in Herefordshire, 79.

PASCALIS, Dr. Felix, his notice of *Traite d'Agriculture*, 39.

PASTURE, for swine, 79. Impropriety of keeping land in perpetual, 203.

PEACHES, price of in London, 351.

PEACH PITS, saved in the fall, how to preserve and plant, 64.

PEACH TREES, salt prevents insects at the roots, 71. Culture of, 110. Anomalous produce of, a 145. Effects of winter on, in the Genesee country, by D. T. 214.

PEAR TREES, girdling makes prolific, 141. Diseases in, 169.

PEARS, petre, presented by R. Carr, Esq. 241.

CONTENTS.

vi

PEAS, new method of raising, 145. And barley, culture of, 232. New plan of sticking, 303. As a field crop, 356. Insects in, 404.

PEBBLE STONE FENCE, how to make, 399.

PERRINE, Henry, proposes to establish a nursery of tropical plants, 263.

PERSIAN TOBACCO, samples of, received, 401.

PERUVIAN COTTON, remarks on, by P. White, 153.

PETIOLE PEARS, presented by R. Carr, Esq. 241.

PHYSEALG, vegetable, 857. 373.

PICTURE, an old one, 357.

PINUS CEMBR, a new sutable pine, notice of, 84. 197.

PIPPINS, preserved, 334.

PLANTER'S GUIDE, by Sir H. Stewart, notice of, 297. 313.

PLANTING, from the Library of Useful Knowledge, 2. 10. 18. 43. 60. 68. 76. 83. 92. 100. 108. 116. Hexagonal, by the Editor, 3. By J. F. B. 25. By the Editor, 65. By R. R. Harden, 66. Corn, 75. Of trees, 329.

PLANTS, how to protect, 49. Reviving, 71. Physiology of, 86. Tropical, 101. Physiology of, 124. Native ornamental, 173. Adapting them to soils, 324. Exotics, &c. 342. Found with mummies, 405.

PLASTER, use of, on corn, 49. As manure, 51. On vegetables, 52. As manure, 67.

PLOUGH, with a weed hook, by Mr. Garnett, 308. 321. Culture of corn with, 394.

PLOUGHING, and hoeing, 180. Utility of frequent, 372.

PEONIES, notice of, 81. 97. By An Amateur, 137.

PLUM, Arkansas, plants of, received from Col. O'Fallon, 25. Fine ones, in the Genesee country, 237.

POISON ROOT, remarks on, 349.

POMOLOGICAL MANUAL, Prince's, notice of, 73. 81. By T. 145.

PONDS, season for emptying, 182.

POPOSEE, how to make, 182.

PORK, New England, large, 350.

PORTER, Com. describes Angora cats, 145. Sends seeds of a new ornamental tree, 145.

PORT WINE, why exported in pipes, branded, &c. 153. Quantities exported from Oporto, 407. Of the shops, composition of, 407.

POSTS, last longest when set with tops down, 185.

POTATOES, planted whole, 55. Culture and preservation of the sweet potato, 75. Boiling, 103. Culture of, 107. To preserve, 144. Mealy, most nutritious, 164. To save sweet, 193. Why they should be stored with the earth on, 226. Large ones, 257. Rules for preserving sweet, 258. Preparing, as food, 271. A curious one, 273. And corn, culture of, 283. Great produce of, 291. To cut, for planting, 292. Culture of, 300. The largest, 300. Great produce of one, 341. Large sweet, 341. A large one, 353. Large produce of three, 378. 380. Premium crops of, 395. Raising, to sell or having to buy, 395. Great produce of, 398. 403.

POULTRY, Moubayr on, 131. Rearing in Mexico, by H. Perrine, 262. Fed on boiled potatoes, &c. 334.

PRAIRIES, floral beauty of, the 343.

PRANGIOS HAY PLANT, account of, 259.

PRATT, J. and M. on corn planting, 3.

PREMIUM, offered for proof of the transmutation of wheat to cheat, 244.

PRIMROSE, dwarf white evening, 137.

PRINCE, Wm. on the reciprocal influence of the stock and its graft, 261.

PRINCE, Wm. & Sons, on dahlias, 251.

PRIZE CATTLE, in England, 15.

PRIZE ESSAY, second, on rural economy, by N. Herbmout, 21. Third, on horticulture, by Calvin, 54.

PROFIT, and expense of farming, 341.

PROTECTING PLANTS, from insects, 49.

PRUNING, trees, 13. Orchards, 373.

PUDDING, sweet apple, how to make, 334. Sweet potato, poetical receipt for, 401.

PUMPKIN VINE, a productive one, 7.

PUMPKINS, mammoth, a new kind, 241.

PUMPKIN PIES, how to make, 350.

PUTTY, solvent for, 128.

PYROLA, notice of, 129.

PYRUS MALUS BRENTFORDIENSIS, a new and splendid book, 89.

Q.

QUINOA, (chenopodium,) a new and delicious spinage, 89. Remarks on, 349.

R.

RADISHES, culture of, 181. Why considered wholesome, 262.

RAIL ROAD, Baltimore and Ohio, report of, 278.

RAIL ROAD JOURNAL, notice of, 201.

RAPP, Frederick, conversations with, on his silk establishment, 265.

RARE, or rose tree seed, sent by Com. Porter, 145. Remarks on, by S. Feast, 169.

RATS, chloride of lime a remedy for, 66.

RAZOR, method of fine edging, 79.

READ, W. G. on the culture of cow peas, 229.

REMOVAL, of the Farmer office, 241.

REVIVING PLANTS, by spirits of camphor, 71.

RHODODENDRON PONTICUM, notice of, 81.

RHUBARB, culture and value of in diseases of the bowels, by G. B. Smith, 179. 193. Culture of, 197. Culture of, 382. 390. 396. 404.

RHYME, good, but bad reasoning, 113.

RICE, why kept in large piles, 215. Culture of, 258. 268. Russian, 300. Culture of, 346. Machine for cleaning, 358. Lands, rotation in, 371.

ROBBING GARDENS, notice of, 17.

ROBERTSON, John C. on blind staggerers, 191.

ROOKERY, South Sea, account of, 351.

ROSE BUG, will not prey upon native grapes, 9.

ROT, in sheep, 54.

ROTATION, of crops, 244. In rice lands, 371.

ROWAN, Thomas, on cheat, 4.

RUFFIN, E. his Treatise on Calcareous Manures, 113. On lime, as a manure, 266. On marl, 331.

RUSK, to make fine, 393.

RUST, in cotton 378.

RUTA BAGA, its successful culture in Georgia, 9. Culture of, 10. By J. B. 42. By J. W. M. 323. By Sidney Weller, 354.

RYE, vitiated, pernicious effects of, 254.

S.

SALT, Liverpool, improper for butter, 38. That of Syracuse, N. Y. very fine, 49. Prevents insects in peach trees, 71. Used as manure, 124. For cattle, 233.

SALT, Kanawha alum, manufacture of, 271. By C. W. Johnson, 314. 322.

SALT MARSH, the various uses to which it may be applied, 74.

SAND CHERRY, plants of, received from Col. O'Fallon, 25.

SAW DUST, used as food for hogs, by the Shakers, 257.

SCUPPERNON GRAPE, 129. Description and drawing of, 132. And wine, remarks on, 345.

SEASON, in New York and Maryland, 303.

SEED CORN, steeping in copperas water, &c. 59.

SEED WHEAT, preparation of, 300.

SEEDS, long vitality of, 140. To restore the germinating powers of, 141. Why do they grow in sand, &c. 215. Fall, sowing of carrot, parsnip, &c. 222. To make old ones grow, 263. Of trees, &c. when to sow, 289. Germination of, 294. Of ancient plants found with mummies, 405.

SHEEP, instinct in. 25. Diseases in, 31. 39. A prolific one, 33. Poisoned, 40. Rot in, 54. Letter from Wm. Jarvis, 106. Shearing, 136. Shepherd's Manual, 132. And wool, improvement of, by R. K. M. 138. Shepherd's Manual, 141. 148. 157. 166. 174. Improvement of, by R. K. M. 184. And shepherds in France, 195. Improvement of by R. K. Meade, 245. And swine, report of the Brighton show, 275. A large one, 353. An immense one from Switzerland, 353. Exhibition of, proposed, 369. 371. 402, 403.

SHEPHERDIA CANADENSIS, notice of, 373.

SHEPHERD'S MANUAL, on the management of sheep, 132. 141. 148. 157. 166. 174.

SHORTHORNS, new importation of, by Wm. Jackson, 229.

SILK, proceedings of the New York legislature on, 17. Raising and manufacturing, 79. Sewing, 134. Culture of, by J. T. Barclay, 165. Domestic manufacture, error corrected, 193. Specimen of domestic, 244. Practicability of cultivating, and conversation with Mr. Rapp on, 265. In Massachusetts, 284. From Indiana, 313. Remarks on, with notices, and modes of constructing moulting frames, 357. Filatures, 359. Experiments in, 369. Culture of, at Lowell, 385.

SILK GRASS, notice of, 108.

SILK WORKS, Dedham, letter from J. H. Cobb on, 287.

SILKWORMS, an error corrected relative to, 81. Experiment with the Chinese, by Dr. James Mease, 180. Two crops of, raised by Mrs. Parmentier, 229. On feeding with preserved leaves, 237. Native, notice of—two broods of, by Mrs. Parmentier, 270. In open air, 332.

SINCLAIR, Robert, presents Catawba grapes, 241. On the culture of asparagus, 385. On the vine, 396.

SINCLAIR AND MOORE, on Buffalo berry and Arkansas plum, 327.

SISAL HEMP, reward for a machine for cleaning, 263.

SKELTONS, of leaves and flowers, 25.

SLUGS, method of destroying, 127.

SMITH, Mrs. Elizabeth, consort of the Editor of the American Farmer, obituary notice of her death, 161.

SMITH, Gideon B. on the culture of Rhubarb, 177. Of the tulip, 357.

SMITHFIELD, cattle show, description of, 94.

SMUT, cause of, in wheat, 412.

SNAKE BITES, treatment of, by Dr. R. R. Harden, 46.

SNOW, in Virginia, 251.

SOAP, recipe for good, 383.

SOAPSDS, an antidote for insects, 205.

SOILS, light arable, may be too much pulverized, 33. Fertility, classification, analysis of, &c. by Professor Eaton, 210. Mixture of, by Rev. M. Allen, 234. Adapting plants to, 324. Analysis of, 348. Adapting crops to, 364.

SOUTH SEA ROOKERY, account of, 351.

SOWING grass seed, 27.

SPARKS, Jared, on Washington's agricultural papers, 217.

SPINAGE, new and delicious, 89.

SPOFFORD, Dr. his essay on irrigation, 156.

SPRING, hues on, by Barry Cornwall, 335.

SPURRED RYE, ergot, caution against, 361.

SQUASHES, winter, how to raise, 21.

STAGGERS, blind, in hogs and horses, 134.

STEER, a large one in Boston, 86.

STILTON CHEESE, how to make, 86.

STING of the bee, cure for, 189.

STOCK, exhibition of, proposed, 377. Imported, remarks on, by John Welles, 111.

STOCK AND GRAFT, on their reciprocal influence, by Dr. James Mease, 259. By Wm. Prince, 261.

STONE PINE, notice of, 197.

STOVES, best method of cleaning, 394.

STRANGLES, and yellow water, 303.

STRAW, useful in making manure, 60.

STRAWBERRIES, description of varieties, from Prince's Pomological Manual, 28. 36. And raspberries, plentiful in Baltimore, 49. Season of setting out, 62. Preserving, 63. Early in New York market, 111. In autumn, by the Editor, 217. 235. Not delicious, 273. Culture of, 278. Memoir on, 292. In November, 321.

STRENGTH, of timber, relative, 49.

SUBSCRIBERS, requested to remit payment, 209.

SUBSCRIPTIONS, a request for the payment of, 1,337.

SUGAR, from potatoes, 7. New vacuum, remarks on, 303.

SUGAR BEET, and mangel wurzel, culture of, 50.

SULTANA GRAPES, presented by Dr. Monkur, 217.

SUMMER FALLOWS, remarks on, 179.

SUNFLOWER, oil from the seeds of, 191. A large one, 303. Inquiries as to, and answer, 409.

SWEETSTAKES, for sheep, stock, &c. 369. 377. 402, 403.

SWEETBRIER, for hedges, 71.

SWEET POTATOES, culture and preservation of, 75.

SWINE, pasture for, clover the best, 79. Bedford breed, 182. With remarks on the subject of raising good breeds, 209. And sheep, report of the Brighton show, 275. Management of, at the south, 295. Importance of selecting best breeds of, 391.

STYLA AMERICANA, notice of, 97.

SYSTEMS of farming, by an Eastern Shore Farmer, 34.

T.

TABLETS OF RURAL ECONOMY, a new agricultural paper, notice of, 94.

TEAK TREE, Treasury Department distributes seeds of, 281. Its history, use and culture, 316.

TEXAS, Priestley's notice of, 126.

THISTLES, on eradicating the blessed, 349.

TIHOLPIS BARBATA, notice of, 303.
THOMAS, David, on cheat or chess, 42, 290.
THUNBERGIA ALATA, by the Editor, 177.
TIMBER, relative strength of, 49.
TIMBER TREES, supporting newly planted, 148.
TOADS, their utility in gardens, 73. Bees destroyed by, 271.

TOBACCO, Persian, seed of, sent by W. Prince and Sons, its culture, &c. 161. Curing by steam, 305. On the culture of the yellow, 380. Persian samples raised from seed, 401.

TOMATO, extract from Gerard's Herbal on the, 222. Cooking, 270. Preserves of, 286. The Mississippi, 350.

TOP DRESSING, lime and ashes, 76.

TRAITE D'AGRICULTURE, a French Canadian work, notice of by Felix Pascalis, 39.

TREES, on dwarfing, 12. Pruning 13. Supporting newly planted, 148. Inversion of, 169. Large ones in the U. S. 180. Forest, 247. Taking up and transporting, 342. On planting ornamental, 418.

TROPICAL PLANTS, proposed nursery of in Florida, by H. Perrine, 263.

TULIP, culture of, by Gideon B. Smith, 357.

TURNIPS, cultivation of, 83. Drill and broadcast modes, compared, 92. As a garden vegetable, 180. Soot, ashes, &c. good for, 189. Why considered wholesome, 262. A fine one, 305. From Cape Cod, 327. Large one, 350.

TWIN CALVES, instance of their capacity for breeding, 81.

TYPE, machine for casting, 129.

V.

VEGETABLE, life, its durability, 97. Instinct, 206. Physiology, 357, 378.

VEGETABLES, green, injury from removal of, 6. Forcing, 13. Their early history, 284.

VEGETATION, time of indicated by the locust, 73.

VINE, culture of, in Georgia, 64. Culture of, in cities, and injury to, by winter, 201. Culture of in France, 213. Injury to, by N. Herbmout, 241. Answer to queries, 244. Isabella, 245. Cunningham and

Woodson Grapes, 257. By S. Weller, 261. Pruning, 318. N. Longworth, 326. Cuttings of foreign, affected by mildew, 350. When Noah planted the first, 355. Varieties best adapted to culture, by R. Sinclair, 356.

VIRGINIA AGRICULTURE, remarks on, 76.

W.

WAGONER, the song of a, 359.

WARRENTON GRAPEVINE, remarks on, by Thomas McCall, 293.

WASHINGTON, Gen. notice of his agricultural papers, by Jared Sparks, 217.

WATER, inquiry for the best mode of supplying, 161. Raising in Spain, 295. To purify, 303.

WATERMELONS, culture of, 70. 111. Recipe for preserving the rinds by Miss Barnitz, 191. Seeds of received, 401.

WATER CRESSES, why they should be carefully picked, 21.

WEATHER, severe, in April, with a table, by Thomas McCall, 33.

WEED-HOOK PLOUGH, J. M. Garnett on, 321.

WEEDS, can they be produced where no seed is sown, 67.

WELLER, Sidney, on the culture of the vine, 262. On Scuppernong grapes and wine, 345. On ruta baga, 354.

WESTERN COUNTRY, account of, 358.

WET LANDS, importance of draining, 339.

WEVIL, its non-appearance in Virginia this year, 268. Late sowing of spring wheat a remedy for, 276.

WHEAT, blackhead in, 113. Old, from an Egyptian mummy, 121. Crop in Virginia, 121. Culture of, 226. Sowing after oats, 387. Cause of smut in, 412.

WHEAT, seed, white bald, 256. Late sowing of spring, a remedy for wevil, 276. In England, 300.

WHITE, Joseph M. on the teak tree, 316.

WHITE, Philo, sends seeds, &c. from Peru, 153. On the cotton of Peru, 369.

WHITE, Thomas B. on Sisal hemp, &c. 321.

WHITWASH, for out houses, &c. inquiry, 17. Answered, 36, 65, 87, 126, 169.

WHITNEY, Eli, sketch of his life, 229.

WILD FLOWERS, remarks on their neglect, 65.

WILLOWS, absorb moisture, 49, 88. Cultivation of, 349.

WINE MAKING, practice of in Madeira, 62.

WINE, American, letter from Mr. Herbmout on, 233. Inquiry for making, 249. By Pomonkey, 254.

From the Isabella, 261. Remarks on by C. Ehrmann, 265. Herbmout's, its excellence as a medicine, 281. To restore sour, 335. Scuppernong, how made, 345. And grapes, Mr. Herbmout's essay on, 377, 380, 338. Port, quantities exported from Oporto, 407. Of the shops, its composition, 407.

WINSHIPS, notice of their receipt of plants from Admiral Coffin, 97.

WINTER, effects of the past, 255.

WINTER GREEN, pyrola, 129.

WINTER MELON, presented by Mr. Thompson, 329.

WONDERS, natural, in Georgia and South Carolina, 289.

WOOD, should be cut once in six or eight years, 326.

WOODLICE, &c. to destroy, 127.

WOOD LOTS, laying out and preserving, 150.

WOODSON AND CUNNINGHAM GRAPES, presented by Dr. Norton, 257. By N. F. Cabell, 325.

WOOL, comparative prices of imported, 103. On raising sheep for, by R. K. Meade, 134. And sheep improvement of, by R. K. M. 138. Specimens from R. K. Meade, 161. Trade in New York, 273.

WORMS, in stone fruit, by D. T. 181.

WORMS OUT LAND, improvement of, 26.

WOUNDS, in trees, to heal, 121.

WRITING, legible, remarks on, 231.

Y.

YARDS, for cattle, construction and management of, 197.

YEAST, preserved, how to make, 393.

YELLOW WATER, in horses, treatment of, 238, 303.

YOUNG FARMERS, Gen. Humphrey's advice to, 187.

Z.

ZINC WARE, for dairy purposes, 57.

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae.".....VIRG.

VOL. XIV.

BALTIMORE, MARCH 16, 1832.

No. 1.

THE FARMER.

BALTIMORE, FRIDAY, MARCH 16, 1832.

It being more convenient in "making up" the Farmer, we have changed our Editorial head to the first page. By this it is by no means intended that our lucubrations shall take precedence of the valuable communications of correspondents; to which the Farmer is indebted for nearly all its merits; but to serve a mere mechanical convenience.

We could spin out a "long yarn" on the commencement of a new volume, and probably should do so, were we not stoically indifferent, if not misanthropically opposed, to all such ceremonials. The present, however, must be an exception, so far as a statement of some new arrangements makes it necessary.

The want of Agricultural and Horticultural Societies in this central part of the Union has been most sensibly felt, and after doing all we could to cause their establishment, we have endeavoured to supply their place as far as lay in our power. For this purpose, we have attached to the Farmer establishment, an *Experimental Farm*, where we shall keep every description of *IMPROVED STOCK*, make trials of all *NEW VEGETABLES*, including cereal, culinary, fruit and ornamental plants; all which, when thus proved to be valuable and adapted to our soil and climate, will be kept for sale. One of the objects of this farm is the cultivation of every description of *GARDEN SEEDS*, to which our climate is adapted, and for this purpose such preparation has been made by the importation and collection of genuine kinds as will ensure the good quality of all we shall produce. As time and means permit, we shall add an extensive nursery to the establishment, and in the management of this department we shall attend more to the good quality of the fruit, than to the number of our varieties; knowing full well that half a dozen good varieties are worth more than half a hundred of merely passable kinds.

On this farm, with this object, the Editor of the Farmer has just located himself. He has gone on to it full of hope and ardent with expectation that his labours in the great cause of American husbandry will result in much good to his country, and at least a tolerable competency to himself. Such being the views and objects of the present arrangement, the Editor does not hesitate to ask assistance from his numerous friends in this undertaking, in the way of contributions, of any thing they may deem valuable, either animal or vegetable, assuring them that all such shall be made to reach the common stock of the country, and to enrich it with all the qualities they may be capable of imparting.

It is proper here to remark, that although the Editor resides upon the farm, and bestows upon it constant personal attention, his duties as Editor of the Farmer, are attended to as usual, and he hopes will be with increased practical utility—as he will be able to devote his hours of respite from the labours of the field and garden, to the pleasing occupation of imparting to others the information gleaned from the field of experience.

The Editor also deems it proper to say, that the seed store and agricultural agency for some time established, at the office of the American Farmer, have

been extended and will be continued under the personal superintendence of Mr. Hitchcock, the proprietor of the Farmer. At this establishment every thing kept or produced on the experimental farm, as well as all articles necessarily obtained from foreign countries, comprising a complete assortment of seeds, will constantly be kept for sale; and all articles appertaining to farming and gardening, not kept at the store, will be obtained through the medium of the agricultural agency. In our anticipations of success in this undertaking, we may be deceived; but we greatly err in our estimate of men and things if they be not realized. Our experiments with new things will not be costly—enough only to try their value and adaptation to the climate will be obtained and cultivated. This will cost but little, and if they prove worthless or unsuited to the country, the loss will be unimportant. The bulk of labour and expense will be bestowed upon objects of ascertained value, and on these the establishment will be dependent for support. Experiments in cultivation will also be made upon the smallest possible scale at first, so that the risk of loss will be reduced to an equally low minimum. If a rod square, under a new mode of cultivation, is improved by it, we shall have the best assurance of success upon an acre; and if it be not improved, we shall have sufficient warning against a more extended experiment.

We have deemed it proper thus to lay our views and designs before our patrons, that whatever advantages may accrue therefrom to them or to ourselves might be availed of.

If those Editors with whom we exchange deem our plan one of public interest, we shall be gratified to see the above article copied into their papers.

ARACACHA.—We regret our inability to accompany the article, from the Southern Agriculturist, on the result of an experiment in cultivating Aracacha, with a detail of our own experiment. Our engagement in removing to our farm for sometime past has prevented it. We have only time and room to say, that the result of our experiment is much more flattering than that of Mr. Legare, owing probably to the difference of climate. We have succeeded perfectly in preserving the roots of this excellent vegetable through the winter, and shall have enough to finish the experiment the approaching season; when, if it proves valuable, and we have now little doubt of it, we shall be able to supply those who may desire it. Our opinion is very strong that it will be as easily cultivated as the parsnip.

A REQUEST.—Our subscribers will readily perceive, that the successful prosecution of our plan as sketched above indispensably requires, at the outset especially, the disbursement of much money. For this we are entirely and solely dependent on our patrons. The publisher, therefore, earnestly solicits those who are in arrears for the 13th, or any previous volume or volumes, to remit the amount by mail, at his risk without delay. He ventures also, to appeal for a FAVOR to that numerous class of subscribers who make it a point to comply punctually with the terms (paying at the middle of their year), and to whom he feels truly grateful. It is, that they remit this year in March or April, instead of September. This would probably be of little importance to them, but certainly of much to him. He leaves it, of course, to their decision.

One word more. The practice of addressing business letters to Gideon B. Smith is productive of some inconvenience and delay, as he resides some miles from town, and does not, as formerly, visit the store daily. To insure prompt attention all letters appertaining to the business in any department of the "establishment," should be addressed to I. Irvine Hitchcock, who will attend to them punctually. Owing, however, to a concurrence of untoward circumstances many letters remain at this moment on our desk unanswered. They shall be attended to very soon.

FOREIGN MARKETS.

LIVERPOOL MARKETS.—Our last dates were to Wednesday, January 25. Up to that time the sales of Cotton were about 2000 bales a day, and the market rather languid, though on the last day slightly improved by news from the United States. The best prices of two weeks before, being hardly maintained.

We have now to add that the sales of that business week, ending with Friday 27th, amounted to 14,000 bales, with an improved appearance on the last days, recovering all which had been lost.

During the next week (ending Feb. 4th) a decided improvement took place, amounting to 2d per lb. on fine quality, and 3d-8d on low qualities.—The particulars are as follows: 11,860 bags Bowed at 5d7d; 2,774 Orleans at 5d2a8d; (10 at 8d); 3,518 Alabama 4 7-8a6d; 443 Sea Island at 9d1a15d; 30 Stained at 7da8d.

About 5,000 bales of American, of common quality, have been purchased at 5d.5d, also some parcels of East India for shipment. With so brisk and general a demand an advance of 1-8da4d has been established on the lower qualities of American, and on all other descriptions 1 8d per lb. The market closed yesterday steadily, but with a less urgent demand than the two preceding days. Since the beginning of the year our stock is considerably reduced, being at present estimated at only 182,500, whilst at the corresponding period last year there remained on hand 225,400 bags and bales.

A steady business continues to be done in Tobacco; this week's sales reach above 100 hhds. at full prices, taken by our own and the Irish manufacturers. Corn Market—A moderate demand is experienced for fresh Irish wheats. Of fine American flour little remains here that is good. Indian corn is very unsaleable. In grain and flour under the lock but little business has been done. The last sale of flour was a parcel of sour Virginia, for which 21s per bbl. was paid.

From the London New Price Current, of Feb. 7. Wool—During the past month a great deal of business has been done, and large sales both of German and Spanish Wools, have been made, the stock on hand of the right selling kinds is small.

SALES AT HAVRE. Feb. 8—408 bales Louisiana Cotton at 90a100f; 742 do. Georgia at 73a881 cts.; 124 bags St. Domingo Coffee, entrepot at 65 cts.; 80 mill whale Oil at 40f free—7th.—1863 bales Cotton, Louisiana, 84a10f; Georgia, 82c; 176 bags Mocha Coffee free 1161; 100 do Haiti, 56 7-8c entrepot; 44 hhds Philadelphia Querciton, at 136f0—6th.—874 bales Cotton; 271 bags Haiti Coffee at 61 7-8 63 1-8 cts.; 89 cases Bengal Indigo at 85a0a1080 free—10th.—63 bales Cotton; 15 hls 1st sort Pot Ash, at 40f50; 25 do Pearl Ash, at 42f50 85 cts. new Carolina Rice at 26f50; 49 bags Gum Senegal, at 8f free; 100 bags Hayti Coffee, 67a1c. entrepot.

AGRICULTURE.

(From the Library of Useful Knowledge.)

PLANTING.

CHAPTER VI.

Of the Culture of Plantations; Soil; Pruning; Thinning; remedies for accidental injuries and Natural Diseases of Forest Trees. Of the Thinning afforded by the Bark of different Species of Trees.

(Continued from Vol. xiii. page 355.)

It is of great importance that branches which indicate an over-luxuriant growth should never be suffered to become large, or to exceed the medium size of the majority of the boughs of the tree, but should be pruned off close to the stem when the general interests of the plant will admit of it. These over-luxuriant branches, which, when suffered to take the lead in growth of the general boughs, become so hurtful to the perfection of growth of the stem, are evidently produced and supported by the accidental circumstance of a superior portion of soil being in the way of, and into which the roots immediately connected with these boughs penetrate and afterwards keep possession. By taking off such branches early, therefore, the extra supply of nourishment afforded by such local circumstance of soil is directed to the stem and useful lateral branches.

It has been already observed, that, by depriving a tree, to a certain extent, of its side branches, the growth of the stem in length is promoted, but the diameter, strength, or thickness of it is not increased in the same proportion. When the side branches are destroyed by natural causes, or by the neglect of judicious thinning, the like injurious effects ensue to the primary object here in view that of obtaining the largest quantity of timber of the best quality on a given space of land.

When the lateral branches perish or cease to be produced, except towards the top of the tree, from the want of pure air and the vital influence of the solar rays on the foliage, the existence of the tree may continue for years, but the produce or increase of timber of any value ceases, and it dies prematurely, affording at last a produce comparatively of no value, after having obstructed the profitable and healthy growth of the adjoining trees during its latter unprofitable stages of life. In the contest for the preservation of existence which takes place after a certain period of growth among the individual trees of a plantation which has been neglected, or left without the aid of judicious pruning or thinning, there will be found trees which, from the accidental circumstance of having originally a vigorous, healthy constitution, and from partially escaping the numerous injuries and obstructions of growth that accrue to trees by neglect of culture, have attained to a valuable timber size. The timber of the few such trees, however, as have thus gained the supremacy, is frequently much blemished by the stumps of the dead branches having become imbedded in the wood; and this serious injury to the quality of the timber and the value of the tree, is the invariable consequence of neglecting to prune off these stumps as soon as they appear, or rather neglecting to cut away close to the stem such branches as indicate decay, and before they cease growing.

The time at which pruning should begin, depends entirely on the growth of the young trees. In some instances of favourable soil and quick growth of the plants, branches will be found in the course of four or five years to require foreshortening, and in case of the formation of forked leaders, to be pruned off close to the stem. When the lateral branches of different trees interfere with each other's growth, pruning, so as to foreshorten, should be freely applied in every case, in order to prevent the stagnation of air among the branches, or the undue preponderance of branches on one side of the tree. Perfect culture, in this respect, requires that the plantation should be examined

every year, and by keeping the trees thus in perfect order there will never be any danger of making too great an opening, or depriving a tree too suddenly of a large proportion of branches. The operation will also be so much more quickly performed, as to render the expense of management less than if the pruning were delayed, or only performed at intervals of years, as is too frequently practised. By this management there will be little, if any, necessity for pruning close to the stem, until the tree attain to twenty feet in height, or even more than that, provided the stem be clear of lateral branches from five to eight feet from the root. When the lateral branches are regular and moderately large, the smaller length of clear stem may be adopted, and where the branches are larger towards the top, the greater space of close pruning. Five years from the first close pruning will not be too long before the second is performed; one, or at most, two tire of branches may then be displaced in like manner. The increase of diameter of the stem, is the only certain test for deciding whether the larger or smaller number of branches may be pruned off to most advantage, or whether it may be prudent to take any away from the stem until it attain greater strength and thickness. By examining the trees of a plantation annually, the critical time for pruning every branch for the best interest of the trees is secured. Some trees may be pruned with great advantage successively for years, whilst others may only require it every three or five years, and others again not at all.

It has been disputed whether resinous or non-resiniferous trees are benefited by pruning; but the value of judicious close pruning to that tribe of trees cannot be doubted: at the same time it is but too true that, in numerous instances, it has been carried to a mischievous excess. Young firs and larch trees, when deprived of their lateral branches, to within four or five tire of shoots of the top, are frequently seriously injured by the winds acting on the tuft of branches, which become as a lever loosening the roots, and producing all the evils of a suddenly checked growth, besides those of excessive bleeding or loss of the resinous sap, and the want of the periodical supply of nourishment to the stem afforded by these branches. At sixteen years of growth, larches standing at four feet apart, will be benefited by moderate pruning; i. e., of two or three tire of the lowermost branches, particularly should these appear to be decreasing in their former vigour of growth; and afterwards in every third or fourth year, successively, the like treatment should be adopted to these lowermost branches evincing a decline of healthy growth. The same rule applies to the pine or Scotch fir and the spruce; but the former, having large and compound branches, should be pruned at an earlier age than the latter, or before the lateral shoots are more than two inches in diameter. When the branch to be taken off is several inches in diameter, the wound is so large, the excavation of resinous sap so great, and the heart-wood, or the vessels which constitute it, so indurated, as to render the perfect union of the new and the old wood less certain than in young branches, all which make the removal of large branches productive of more evil than service to the growth of the tree and the quality of the timber. On the contrary, when the pruning of the pine is altogether neglected, and the dead or rotten stumps or snags of branches are left to be imbedded in the wood, or to form cavities for the accumulation of water or other extraneous matters in the substance of the stem, all the purposes of profit and of pleasure are sacrificed to neglect or unskilful culture.

Judicious thinning may be said to be productive of the same valuable effects to a plantation of timber-trees in the aggregate, as those which judicious pruning produces on every individual tree composing it: by the admission of a proper circulation of air and the solar rays, and permitting the free expansion of the essential lateral branches of the trees, as well as by preventing an unnecessary waste or exhaustion of the soil by the roots of all supernumerary trees.

The great advantages of judicious thinning are not confined to the object of obtaining the largest quantity of timber of the best quality on a given space of land in the shortest space of time; but the produce of the trees thus thinned out ought to afford a return sufficient to pay the expenses of culture, interest of capital, and the value of the rent of the land. In many instances the profits arising from the thinnings of well managed woods have covered these charges before the period of twenty years from the time of planting. The time at which the process of thinning should be commenced, depends on the like causes as those which regulate pruning, and need not here be repeated.

In general the freest growing plantations require to have a certain number of trees taken out by the time they have attained to eight years of growth from planting. On forest-free soils of a medium quality, the age of ten or twelve years may be attained by the young trees before thinning is necessary; but should fifteen years elapse before the trees demand thinning, it will be found that the plantation has been imperfectly formed.

No certain rule can be given to determine the number of trees to be thinned out periodically, which will apply to all plantations and to every kind of forest-tree in them. A well-grounded knowledge of the principles of vegetable physiology, and of the habits of trees, is absolutely essential, to execute with success this very important branch of arboriculture. We may, however, quote the following statement from practice as one example, taken from an average of acres on an extensive plantation in Sussex:

One acre of siliceous sandy soil, worth 7s. per acre, when under pasture, being properly prepared and planted with larch, at three feet and a half apart, required thinning for the first time, when the trees had attained to ten years of growth.

Number of trees when planted 3555 on one acre, of which 100 had failed during the first ten years of growth; therefore when the thinning commenced the number was 3455.

Number of Years Growth when thinned.	Number of Trees when thinned.	Dis- cussion of Trees.	Ft. In.	Tires out.	s. d.	Value, l. s. d.
10	3097	3 9	100	100	0 4 each.	4 13 0
				200	0 3	
				58	0 2	
15	2722	4 0	55	0 10		7 4 2
			100	0 6		
			120	0 4		
			100	0 1		
20	2411	4 3	20	1 6		8 17 8
			91	1 0		
			150	0 4		
27	2073	4 7	20	2 0	0 8	13 14 0
			25	1 6		
			100	1 0		
			193	0 6		
35	1440	5 6	25	2 6		32 3 3
			100	1 6		
			275	1 0		
43	1031	6 6	30	3 0	0 each.	32 4 0
			50	2 6		
			200	1 6		
			129	1 0		
51	680	8 0	40	3 6		37 11 0
			100	2 6		
			150	2 0		
			61	1 0		

The future returns of income from the plantation, now rest on six hundred and eighty trees nearly arrived at their perfection of growth. The distance of nine feet apart is considered a sufficient space for the larch, spruce, and silver firs, to attain to their maximum of timber growth, on soils of an average quality adapted to their habits; and as the above trees may

profitably occupy the soil for twenty or thirty years more, or without ceasing to produce timber annually for that period, the thinning now should depend on, or be regulated by, the circumstances of demand for the produce, more than for the benefit of the individual trees which remain.

In the above details of thinning, it will seem to demand an explanation, why certain trees of the lowest value at fifty years' growth should have been left apparently to encumber the ground, while trees of a value equal to these are cut down at ten years of growth. The answer to this question brings us back again to the difficulties before alluded to, of giving any data, or rules applicable in all cases, founded on number, size, distance and time, for the execution of the different processes of culture, relative to assisting and controlling the functions of vegetable life, so as to produce a given result, or obtain a specified quantity of timber from certain trees under different circumstances of soil, site, local climate, and culture.

If all trees were produced from seed with the same degree of constitutional strength, and were the soils on which they might be planted of the like nature throughout, and under equal circumstances with regard to moisture and exposure, as well as to every other influential point, then statical rules of practice for the culture of trees might with equal certainty be given, and of as general an application to suit every variety of case, as those for the execution of any mechanical art: but the reverse of all this is the fact; and every variation in the soil, and in the exposure and growth of the trees, must be met with a corresponding variation in the process of culture, as regards the number of trees to be thinned out, the distance at which they should stand, and their size and age. The trees above mentioned, which at fifty years' growth were not of greater value for the purposes of timber, than several trees thinned out at ten, assisted the growth of the more valuable trees, which immediately or more remotely adjoined them, by the shelter they afforded against cutting winds, and by ameliorating the local climate, to that degree as to fully warrant their continuance. Those trees which were of equal value to these when cut down at ten years' growth, stood so close to others of greater promising value as to injure the growth of both, and had they been suffered to remain, would have prevented some of the most valuable trees of the plantation from attaining to perfection. Thus, on the one hand, by removing the former description of plants, the most valuable trees are promoted in growth, and on the other preserved from injury, by suffering less valuable ones to remain.

Various tables have been calculated to assist in deciding on the number of trees to be thinned out of plantations at stated periods; one of these by Mr. Waistell, appears to be brought to as near a correct average, as the nature of the subject will permit.

"The following table shows the number of trees to be cut out in thinning woods, and the number left standing at every period of four years, from twenty to sixty-four years, reckoning that the distance of trees from each other should be one-fifth of their height, and that the trees should have increased twelve inches in height, and one inch in circumference annually, and to have been at first planted four feet apart."

When there is a deficiency of access to certain parts of the plantation, and additional rides or drives must be made, the lines should be marked out by barking the trees in the course of it, or, what is better, by a circular mark with whitewash or lime. The roots should be grubbed up, and the surface of the ground prepared and sown with the seeds mentioned in Chapter V. When there are steep or hills, the drives should be formed with the most easy ascent for the convenience of timber carts. The ascent ought not to be greater than one foot in thirty. The most useful instrument for determining the ascent or descent of forest drives, is constructed in the form of the common

Years old and feet high.	Girth.	Contents, Cubic Ft.	Distance, Feet.	Number of Trees on an Acre.	Contents, whole in feet.	Number to be cut out.	Contents, Feet.
20	21	0 10 5	4	5722	9362	830	727
24	3	1 6 0	4.8	1883	2934	494	741
28	34	2 4 7	5.6	1889	3808	326	776
32	4	3 6 8	6.4	1083	3779	238	792
36	44	5 0 9	7.2	840	4732	163	819
40	5	6 11 4	8	680	4732	110	819
44	54	9 2 11	8.8	562	5191	50	831
48	6	12 0 1	9.6	472	5661	70	910
52	64	15 8 0	10.4	402	6130	55	838
56	7	19 0 8	11.2	347	6611	45	857
60	7	23 5 2	12	302	7076	37	866
64	8	28 5 4	12.8	263	7537		

level, furnished with an index divided into ninety degrees. When the plummet line hangs at the forty-fifth degree, the legs of the instrument indicate a perfect level, and when it hangs at a lesser or greater number, it indicates the degree of ascent or descent accordingly. In plantations the thinning of which has been neglected, the trees next the sides of the drives are always the largest and most valuable, and afford a test at all times to judge how far judicious thinning has been practised or neglected. When this essential part of culture has been neglected, the greatest caution is necessary in performing the work. The trees being grown up slender, weak, and deficient of side branches, a too sudden exposure to the winds or currents of air, will be found injurious, if not fatal. The outside trees should be continued in their thicket state for several years after the first relief is given to the interior trees, and even then should only be deprived of decaying companions, or of branches unnecessary for the purposes of shelter, but which it may be advantageous for the trees to lose. Trees weakened by growing in a crowded state, become more obnoxious to disease, and to the attacks of insects, and to that of parasitic plants, such as mosses and lichens, which rarely or never appear on healthy and vigorous trees. The number of trees to be taken out on the first occasion of the thinning of a neglected plantation should be very limited, and confined to those which have become the most exhausted. The process should be carried on for six or seven years, until completed. The pruning of such trees should be confined to the removal of decaying or dead branches, until the gradual introduction of fresh air, and the solar rays by the thinning process has renewed lateral shoots and invigorated the branches. Forest-trees are, like other organized bodies, confined to a certain period of existence, in which the stages of growth are distinctly marked, from the first development of the plant in its seedling state, until its ultimate decay by the course of nature. Different species of trees have different periods of existence. The oak is considered to be of the longest duration, and perhaps, the larch of the shortest. The oaks in Woburn Park, mentioned before, as being of such large dimensions and in perfect health, cannot be supposed to be under three hundred years of age. The elm may be placed next in order with the chestnut, ash, beech, and hornbeam, the pine, and lastly the larch. These

estimates of the comparative duration of different species of trees are, however, given from observation only, and are not founded on such certain data as to render them more than an approximation to the truth, for soils, local climates, and the various other causes which promote or retard the progress of vegetable health and growth, interfere with the completion of the perfect, natural term of vegetable life in numerous instances.

Under the most favorable circumstances, however, of soil and culture, trees are subject to various diseases and accidents, and from what has already been mentioned, as to their structure and living functions, this will be no matter of surprise. The diseases of forest-trees may be comprised under those of a general nature, wherein the internal functions are interrupted or partially destroyed; and secondly, those of a local nature arising from external causes, as accidents of various kinds, and the attacks of insects. Neglect of judicious planting and of after culture, are the chief causes of the first mentioned kinds of disease, and tend to aggravate the bad effects of other accidents. When a tree puts forth leaves of paler tint than their natural green colour, and never assumes it again during that and succeeding seasons, and when the growth of the branches is very small and frequently imperceptible, some of them also decaying at the extremities, the disease is termed *chlorosis*. It originates principally from an ungenial soil. The effects of confined air by a crowded state of the plantation, or a too sudden exposure to sharp blasts, will also induce this disease. Topical remedies are of no use, and the means of prevention should be used in planting, and in the after culture.

Spontaneous bleeding, or great loss of sap, generally ends in the disease termed *tubcs*, which, when once confirmed, is incapable of being cured. The elm is of all forest-trees the most subject to this disease. Whenever the branches become disproportionate to the stem and roots, or the foliage too scanty to receive and elaborate the periodical flow of sap, spontaneous bleeding takes place. The neglected stumps of dead branches having formed cavities, afford ready outlets to the sap. Branches which have been suffered to grow too large in proportion to the rest of the tree, and are bent down or project in a horizontal direction from the stem, are frequently attacked with *hemorrhagy*, which, according to our observation and experience, never heals, but continues periodically until the death of the tree. The fluid which is thus discharged by the elm, appears to differ in no respect from the ascending sap of the plant, affording extractive and mucilaginous matters, combined with potassa and lime; the solid matter deposited by the fluid in its course of descent over the bark, leaves a whitish tract at first, but in time becomes blackened by the weather, smoke, &c. The track thus marked out by the hemorrhage, will point out the wound with certainty and readiness. Grass and herbage on which this fluid drops is destroyed by it. When there is made a strong effort of the functions of the plant to heal up the wound, and after it is almost wholly closed with healthy bark, a substance of a dark color and resinous appearance is exuded. This substance is termed *ulmin*; as a pigment it produces the most beautiful brown, and appears to consist of a peculiar extractive matter and potassa. The oak, under the like circumstances, exudes a substance having similar external characters. The birch and maple, when cut or lacerated through the bark into the wood, suffer much from the loss of sap which flows from such wounds.

The pine and fir tribe of trees have a resinous juice, which exudes freely from wounds of the bark. When large branches are injudiciously pruned off, the injury is considerable from the waste of sap. In the cases of full grown trees of the elm being affected with this disease, the best course is to take them down for timber; but where it is desirable to preserve the tree for landscape or ornamental effect, the decayed stumps should be cut away close to the sound bark, and the

wound dressed carefully to protect it from the weather. If a cavity exists out of which the sap has, for a considerable period, been in the habit of exuding, the aperture should be cleared of the dead bark covering its sides, and then the mouth should be securely closed by the composition before recommended, or by any other substance that may be found more effectual to prevent the admission of rain, and of air. Whatever tends to increase the number of healthy branches and leaves on the tree, will the most effectually restrain the disease.

(To be continued.)

CHEAT OR CHESS.

Moor's Mount, Caroline Co. Va.
Feb. 28, 1882.

Sir,—Observing the question whether cheat is produced by degenerated wheat, or a distinct plant, is discussed in your valuable paper, I conclude to furnish my observations and experience to the public. I have heard different opinions advanced by farmers, but have definitively made up my mind to the conclusion that cheat originates from wheat injured in the spring about the period of frothing, and comes from puny suckers that put out from wounded or injured stalks, which, but for the wound or injury, would have brought heads of wheat.

The grounds for this opinion are as follows: having a fishery on my farm, the road to which leading through my spring lot, into which my barn yard and farm pen open by a gate, immediately by the entrance into the spring lot my wheat is, in spite of every precaution, exposed through the month of April and first of May, to be considerably grazed near this entrance, and along the road that the fish carts and wagons travel through the farm, and I have for years remarked that there was cheat in greatest abundance where the grazing extended. This has satisfied my mind that where cheat had not appeared before, and perfectly clean seed sown, grazing after it began to joint would cause it to make its unwelcome appearance.

Again, I think wheat being severely frosted with snow and ice late in the winter and in the spring will produce it; because I had it in great abundance last year on land I never remarked it to be upon before, and my seed was brined, and all impurities removed before sown. The big snow and ice with immense frost, lasted till some time in March. There was generally in my neighbourhood a much finer crop of cheat than wheat last year; I hope for the reverse this year.

Respectfully, JNO. DICKINSON.

P. S. I see there has been rather a warm controversy kept up between two of your correspondents on the question whether the bots destroy horses, or are falsely accused for the sin of the colic and other diseases that the noble animal cannot explain about to us, not being in these days endowed with the power which Balaam's ass was. Upon this question, however, I am inclined to think if he could speak, he would often charge the bots with gnawing his entrails, though frequently exclaim against the colic. I am persuaded that I have lost horses from both of these causes, and I will state how I have relieved against the bots, as I believed them to be; I think they attack the coat of the stomach dangerously only when they are unusually numerous, and the stomach has become empty and continued long so for want of food; to make them let go, is the desideratum. A strong alum drench by constricting them, I think, produces this effect. Follow it with molasses and milk to amuse them till a powerful drench of salts shall rid the stomach of the enemy. Now all this may be a delusion; but I like to save my horses, if it be by a weak or strong delusion, I care not which; but I know of no kind of delusion for relief against the colic in horses; can you or any of your correspondents furnish me with one?

J. D.

CHEAT OR CHESS.

MR. SMITH: Salem, N. J. Feb. 20th, 1882.

As you still invite discussion on the subject of cheat, permit me to give unto the farmers, who are matter of fact men, as they pretend to be, a few more facts, theory they despise, and you are in no want of theoretical writers on any subject. The first fact is, a lot of my neighbors', of timothy one year, and the next all turning to cheat; the second, a lot of my own, the first year after sowing I had mowed a heavy burden of timothy, and the next year it all turned to cheat; the third fact is, a lot of upland, that I had cut two crops of red and white clover a year, for four years, and this last expected to do the same again, but by the first of June it had all turned to cheat; the fourth fact, which is certain to follow in parts of every field of wheat in this neighborhood, if it be red chaff, bearded, and sown early, and manured at the same time it will come up all wheat, and look well until spring, then in places stop growing, look sickly (but not more so than the silk worm before he makes his appearance in the butter-fly) and by the first of June all, or nearly so, turn into cheat. Now sir, permit me to ask you, are these not facts too plain to be controverted by wild speculative theory? And now I will give another fact, the last season was much complained of, as being a greater cheat season on all our grass lands, of a stiff soil and a great sorrel season on the light and sandy soils of this place; the same was in 1816 with us, the cold and dry season then as the last, no matter what kind of grass in the field it turned principally to cheat.

If you would like a little of theory, you shall have it also. As to the first lot, there was a crop of wheat, then timothy, and in the winter the fences got down, and his neighbor's horses ran on it all the spring, the timothy yet being in separate stools and bulbous, and early, it being on dry banked meadow, the timothy was all eaten out, giving the cheat an opportunity to mature itself; the second lot was part of fifty acres, I stopped the tide off on the 15th of June, in August cut the crop of wild grass, consisting of wild oats, sickle grass, &c., and the 1st of October sowed wheat without either ploughing or harrowing on some of the lots, and took the heaviest crop of wheat I ever saw; in the spring after sowing wheat sowed the timothy, the lots having wheat being the best mud, I sold the timothy the next season standing, to neighbors who cut at the beginning to blossom, which killed it, and what I cut myself I let stand until the blossoms fell off, which grew after the scythe, the consequence was all cheat, where the timothy was killed and the other lots heavy crops of timothy, had not the timothy been killed I should scarcely have known of cheat in the meadow; on the 1st of June I turned in sufficient cattle to eat off the cheat close by the beard, and put an end to it for the present, the same as mowing before the seed is ripe will do, as it comes from the seed each year; the third lot which was red clover, was killed by the severity of last winter, and the last May being so dry prevented the white clover and other natural grasses growing, consequently the cheat having no rival it did well, and by the 1st of June there was nothing but a luxuriant crop of cheat, when I turned in a drove of thirty five cattle immediately off of a journey, and eat it off close; after harvest we had it wet and a great grass season, when this lot sent out a heavy swarth of white clover with some crab grass; on the 1st of November I turned it in and sowed it with wheat, and should the wheat meet with bad luck, I shall have a good crop of cheat, but if the wheat does well I ask no favors of cheat. We have the greatest grass land in the state, consequently the most cheat, it is to be seen more or less on all our fields of good grass seasons, but such as the last and the cold and dry season of 1816 it is to be complained of. As to wheat turning to cheat, I observed that it was certain of red bearded in certain parts of every field sowed early, and at the same time manured; those

gully spots are with us termed the stud, (I presume from the similarity to a horse being able but not willing to do his best) a majority of our best farmers get angry when you tell them that this wheat or the wheat destroyed by the winter, horses feeding of when the ear was advanced though not yet to be seen, and many other casualties, all of which give what cheat may be in the ground, a chance to show itself, they tell you they see the fact, it was wheat and now it is cheat.

I beg to be a partner of the York Co. Farmer in the cultivation of turnips, potatoes, or watermelons, from the seed of a cucumber; when any one can shew me cheat from any thing but the seed of cheat. If you should condescend to read the whole of these hasty lines, the most that I can expect is, that you may make out a case from them in your own language to corroborate your own and a small portion of others' ideas on the subject. I will engage to produce on any of our rich low fields of wheat, one rod square of cheat the coming season, by only pulling up by the roots all the wheat.

Very respectfully,
Your obt' serv't,
THOS. ROWAN.

(From the Southern Agriculturist.)

ON THE IMPROVEMENT OF SOUTHERN AGRICULTURE.

Dear Sir,—I must beg you to excuse me for not complying with the promise which I made you several months ago, which was to give you my thoughts on agriculture, and my idea of the best mode by which the agriculture of South Carolina might be improved and encouraged. I will now endeavour to redeem that pledge. A knowledge of agriculture is not so easily acquired, nor is it so generally understood as is believed. This will be readily acknowledged by all who have the most profound and practical knowledge of the business. That there is a great want of a knowledge of agriculture must be manifest to any one who will take a view of our planting establishments. It is not unusual to see landed estates, as well as personal property, changing owners. This must be owing to one of two causes, or perhaps to both, namely, a want of a knowledge of agriculture, or of economy. An error in the present state of agriculture consists in an overreach in planting. It is as hurtful to the planter as the rot in his cotton. It is in consequence of this that plantations suffer for those necessary improvements which they yearly want. All practical planters will agree with me in this. If so, why not plant less? If we will examine what the face of the State was thirty years ago, and what it is now, we must acknowledge that there is an absolute necessity for a different mode of cultivation. At the period above mentioned it was only necessary to clear lands and plant; and this required little skill. The high price of cotton held out such inducements to the planter, that all lands that were accounted good for cotton were hunted up, purchased at any price, cleared and settled, (if I may be allowed to say settled.) This was no little disadvantage to the State in one point of view. These lands have now become worn, and, comparatively speaking, unproductive. We are now under the necessity of doing one of two things; either to go to new States and fell the forest again, or adopt a different system of cultivation. I can say from experiments which I have made in raising wheat and corn, that if planters will plant but one-half of the land which they are generally in the habit of planting, and manure that highly, and work it better, they will make as much as they do from double that quantity of land, and at the same time have an opportunity of making those improvements and repairs which are so necessary to the comfort of man and beast. I have, for the two last years, planted only one-third of the lands I formerly planted in corn, and make more than I did from three times the quantity before. If I, who pos-

ness but a small share of the knowledge of planting, can do this, surely those gentlemen whose minds have been enlightened by science, and deeply imbued with a knowledge of agriculture, can do much more, could they be persuaded to adopt the same system. But the old, miserable mode of planting has become a habit in the planter, and like a contagion, spreading far and wide, has affected small farmers, and will require time to expose and put it down.

I will now proceed to give you my mode of raising corn and wheat. I have (merely for family use) sowed yearly in wheat ten acres of land, on which I applied six or eight wagon loads of stable manure, and three loads of cotton seed. From experiments for several years, I found that these ten acres of land did not yield an equivalent for the labour expended. The plan I now adopt is this:—I lay off three acres of land (which is a part of the above mentioned ten) and prepare it well. Wheat land ought to be finely ploughed until it becomes well pulverized. I haul on these three acres six loads of stable manure and two loads of cotton seed, have it dropped in small heaps over the whole, and then have it strewed regularly over the land by hand. When manure is irregularly applied to wheat land it proves a great disadvantage. My land being thus prepared, I sow my wheat broadcast, and plough all under. If my land is not sufficiently level for the cradle, a light harrow follows. These three acres thus prepared and planted, have yielded me as much again as the ten did before. I wasted my manure on the ten acres, incurred additional labour in ploughing and reaping, with the loss of seed wheat. The seasons both years were equally good.

Planters of Carolina! it is a duty imperative upon us to give to each other all the information we are in possession of on agriculture. We have an easy medium of communication through Mr. Legare's valuable "Agriculturist." Let our efforts from this time be directed to this point—to understand how to raise the greatest quantity of produce from the smallest piece of land with the least amount of labour. Let us consider this the beauty of planting.

As I have been infected with the malady of over-planting of corn (as I was of wheat) I have, for several years past, adopted more and more the farming principle, and now plant but very little more than one-third of the lands I formerly did, and make more. I will now give you my mode of planting corn. Before Christmas I break up my lands by a deep ploughing, and let it remain in that state until the first of March. I then throw it in beds six feet apart. When ready for planting, I draw a fresh furrow lightly in the alley, or (better understood) in the last furrow the plough made in throwing up the bed. I plant my corn in drills, at two feet distance, giving one hundred and five stalks to an acre's length, and cover lightly. On each hill I put one handful of rotten cotton-seed, or double that quantity of stable manure. The corn comes up through it. As soon as my corn gets its fourth leaf I plough; four or five days after I follow with the hoe and give it a light moulding, and thin it to one stalk. When ten or twelve inches high, I plough again; in four or five days I follow with the hoe and give it a good moulding. The same routine of work is performed when the corn is waist high. The fourth and last ploughing is performed when the corn is tasseling and silking. In a few days after, I give it a handsome ridging. The bed is made four feet, the alley two feet. Great attention should be paid at all times in keeping the beds as level at the top as possible. If particular attention is not paid to this, the beds are apt to be drawn up rounding. This is the mode I follow in the planting and working of corn, and can only say that I raise a plenty, and believe that it does not require as much labour in making this quantity, as by the system of cultivation which I before pursued.

I now proceed to give you my thoughts on the best mode by which the agriculture of South Carolina might be improved and encouraged. I have often re-

gretted that agriculture was not encouraged and fostered by the Legislature. It is the nerve and life of the State; the support of the human family. Take from the State its agricultural interest, and what is she? Where has she commerce? Where manufactures? Why agriculture, (a knowledge of which is so absolutely necessary) should be left to contend for itself, I cannot conceive. I verily believe, that if agriculture and economy was better understood we should have much less poverty and misery in the world. It has been proposed, in our Legislature, to establish a Professorship of Agriculture in the South Carolina College. Why not choose a city in the moon? An institution of this kind, in my opinion, ought to be in a healthy, retired section of the State—far from the fumes of a town or country village.—That in this institution, a good English education ought to be taught for the benefit of the poorer classes of young men, and agriculture practically, as well as scientifically. This institution would be a nursery from which gentlemen might, in the course of three or four years, obtain young men well qualified to take charge of their planting interest. Without this necessary preparation, what sort of men are employed? Some without the least pretensions to moral character. Some so ignorant of their business as not to know a harrow from a plough; or if so, not the use of them. An institution of this kind would be a desirable place for gentlemen to send their sons, if but for six months or a year, to become in some degree acquainted with the planting operations, which they at no distant time will manage and control. Under existing circumstances, they are, to a certain extent, precluded from giving their sons that instruction in agriculture which they would desire. To send them to a plantation for instruction, prudence forbids. I am persuaded in my mind, that if the State should establish and patronize an institution of this kind, that it would not only be an advantage to the State, but would redound to its honour, provided the professor would have the good of the State in view, and not his own personal aggrandizement. Again: this would give action to the pursuit of agriculture. It would give a tone to its character which it never had before. In its present state it is looked upon as rather dishonourable—as a business which belongs alone to the plodding part of the community, whose intellect unfits them for all other pursuits. I will below give a detailed statement of the expenses of an institution of this kind, as a practical planter would, who knows how he gets his money, and who is not altogether in the habit of "building castles in the air."

400 acres of land, - - - - -	\$500
4 mules, ploughs, and gears, - - - - -	350
300 bushels of corn, and 6000 weight of fodder, - - - - -	300
Professor's house, School-house, Steward's house, (to be good frames, weather-boarded and sealed,) - - - - -	2,200
25 cabins, 16 by 12, each cabin to contain four students—(these to be good frame buildings, and weather-boarded, with stone or brick chimneys,) - - - - -	2,500
50 mattresses, - - - - -	250
100 pair of sheets, - - - - -	150
100 pillows, - - - - -	100
50 bedsteads, - - - - -	100
The board of 100 students for one year, - - - - -	7,000
Salary for Professor of Agriculture, - - - - -	1,000
Teacher of the English language, - - - - -	300
Servants, - - - - -	200
Clearing 100 acres of land, and splitting rails, - - - - -	700
Barn and stables, - - - - -	200
Contingencies, - - - - -	500

\$16,450

The second year this amount would be diminished at least one-third. The third year the establishment, under a judicious management, would nearly support itself.

ABRAHAM ZEIGER.

HORTICULTURE.

(From the Southern Agriculturist.)

RESULT OF AN ATTEMPT TO CULTIVATE THE ARACACHA;

BY THE EDITOR.

It is known to the readers of this journal, that Mr. Gideon B. Smith of Baltimore, (editor of the "American Farmer") imported last spring from Columbia a number of Aracacha roots, which, with great liberality, he distributed in different sections of the United States. This root is considered in Colombia as "the most useful of all the edible roots, being superior to the common and sweet potato," and has for some time attracted the attention of the botanists and horticulturists of Europe, and many attempts have been made to introduce them there, and as well as into the United States. These have generally been unsuccessful; in fact, we know of no place where they are cultivated with success out of South-America, except some of the West-India islands. The Chevalier Soulangue Bodin states, that they are cultivated in the botanical garden of Montpellier, and flourish in that of Geneva. But whether as mere objects of curiosity, or are so acclimated as to become useful, we are not informed. A plant may be cultivated with success in a garden, where proper care can be bestowed, to protect from cold or shade from heat, which cannot thrive at all if exposed to the vicissitudes of the climate. We believe no attempt to accomplish this in any part of the United States has been even partially successful until the present year. The Aracacha has long been on the catalogue of the Linnaean Botanic Garden, New-York, and we obtained from thence, in 1828, four roots. They all perished during the first summer—being absent the whole time we know not to what cause to attribute their deaths. If Mr. Prince, (the proprietor of that establishment) has been successful in their culture in the open ground, he has not made it known to the world, (at least we have never heard of it) we are therefore induced to believe that he has not, especially as when we requested information he referred us to an article published in the "American Farmer," relative to their culture in Jamaica. The efforts now made, may therefore be considered as the first which have been even partially successful and which have been made public.

Some of the roots were sent on to the Massachusetts Horticultural Society, and by them committed to one of their members. He has reported an entire failure and expressed an opinion unfavourable to their being sufficiently climatised for any useful purpose, if at all.

We will now proceed to state the result of our attempt to cultivate them, and as this plant may at some future time become of importance to us, we hope we shall be pardoned for being minute in our account. It will be interesting, even should they never become objects of culture with us to know hereafter that their introduction was attempted, and what was the result. Moreover, publicity being given to all these experiments, they will serve as guides to those who may wish to undertake their culture.

Early in March, we received from Mr. Smith fifteen roots, which we had planted on the 26th in the following localities. Four roots (marked No. 1.) in a sandy loam, near the termination of a gentle declivity. This was chosen in order that they might not suffer from our spring droughts—they were guarded from an excess of moisture, by having a ditch cut within a few feet of them. The balance were planted in a garden, the corners of which pointed to the north, east, south and west. Three roots (No. 2.) were planted in the northern corner, near to a paling fence, and were protected on the north-east and north-west by it, and which afforded a shade to the plants in the afternoon from about three o'clock: the rest of the day they were fully exposed. Four roots (No. 3.)

were planted in the southern corner, and were greatly protected from the sun, by a house to the south, a close paling fence to the east, and a large peach tree to the west, in consequence of which at no time were they long exposed to the sun. Being perfectly open to the north, and with nothing overtopping, these plants enjoyed as cool and as favourable a situation as our climate would admit of. Two others (No. 4.) were planted in the middle of the garden;—the soil of the whole garden was light and sandy. A compost of equal quantities of *well rotted* stable and cowpen manure was used.

When planted, most of them had commenced vegetating, and on 4th of April they were above ground, with leaves fully expanded. The month of April was exceedingly cool and rainy, whilst May, on the contrary, was excessively dry, more so than we ever recollect it to have been so early in the season. On our farm, where these roots were planted, the drought was so severe, that many vegetables in the garden perished for want of moisture, and many which we consider as best able to withstand such seasons, were so injured as not to recover their vigour during the whole season. The month of May, although dry, was generally cool; there were, however, some very warm days, during which the leaves of all vegetables were more or less wilted. During this trying season, the aracaça were most luxuriant in their growth, and progressed rapidly, apparently totally unaffected by either heat or drought. There was very little if any difference of growth between the different plants. They continued to promise well until the middle of June, when we had some unusually high tides, which overflowed places not subject to inundation even in gales. These tides did us some injury, and though they did not overflow the bed on which No. 1 was planted, yet they penetrated into the adjacent ditch, the consequence of which was that one of the plants soon perished. Soon after there occurred heavy falls of rain, and all of these perished.

The year 1831 has, in the lower part of this State, been remarkable for the alternations of drought and heavy falls of rain. The winter had been unusually severe and rainy; the last of February and March was, however, mild, and not more rain fell than was necessary for the purposes of vegetation. On the 16th April there occurred a most tremendous fall of rain, accompanied with much cold. During the month of May there fell but one shower,* and vegetation suffered much, as before noticed. From the middle of June to the middle of July, there was scarcely a day during which it did not rain, and for many days, violently. From the 16th July to the 9th August we had no rain; the remainder of August and September were rainy, whilst October was just enough so for the purposes of vegetation.

It will be seen from the above statement, that contrary to the usual course of the seasons, we had alternations of droughts and inundations in constant succession, and with scarce any intermediate stages; for from the time it ceased raining, it very often happened that not a shower fell again until the next deluge. These vicissitudes were extremely unfavourable to all garden crops, and it could scarcely be expected that plants which were cultivated here for the first time could prosper, when those long habituated to the climate perished. Notwithstanding, however, the aracaça grew well until July, when there was an evident decline, and which was most perceptible after the heavy falls of rain, which commenced in June—by the 6th of August all on the low grounds had died, as well as one of those in the centre of the garden. By the middle of September all in the garden perished, except those in the southern corner, which were protected from the influence of the sun by the house, &c. These plants were not exposed, we believe, to the direct rays of the sun more than three

or four hours during the day, if so long, and from their situation the ground must have been as cool as it was possible for it to be during summer.

These plants grew as vigorously in the early part of the season as any of the others, especially during the dry weather, but appeared to suffer much less from excessive moisture. During the months of July, August, and the commencement of September, they remained stationary, perhaps on the decline; not one of them, however, died. Towards the last of September there was an evident renovation. The old leaves, which before had a sickly hue, recovered their healthy appearance, and there was a vigorous growth of young shoots and leaves. From this time, until killed by a frost in the middle of November, they were far more luxuriant than we had ever before seen them. During the summer we could not find more than five shoots. On a root we have taken up since the tops were killed, we have found sixteen large and distinct shoots, and a large number of smaller ones growing from these, with innumerable embryos and eyes, which in a short time would have astonishingly multiplied the product of the plant.

It perhaps will be expected that we should give an opinion relative to this plant's being climatised, and its value. We cannot from this solitary experiment venture to give the least opinion. We have stated the facts as they were noted down at the time, and it will remain for each to form an opinion for himself. All of the plants flourished remarkably well during the early part of the season, and whilst it continued dry, but perished as soon as the heavy rains set in (except those noted.) From this we conclude that heat is not so injurious to them as much moisture, and perhaps it was both combined which produced the result. Over many I had scaffolds erected from three to four feet high, sufficient to shade them from the mid day, but open to the morning and evening sun, also enjoying a free circulation of air. Some were thus protected from the commencement, whilst others received it at a much later period. I found these of no avail. On examining those which perished, I found invariably that the lower parts of the original plants rotted first. The crown (from whence issued the shoots) continued alive much longer, and the leaves and the young shoots remained of a good colour, some time after decay had commenced. They appeared to thrive best in moderately cool weather, and were not affected by such frosts as killed tomatoes and other tender vegetables;—their situation, perhaps may have aided in protecting them. We wish much that we had given these plants some protection during the winter; a very slight one we believe would have answered. Had we done so we doubt not but that we would have been the first to have eaten of the matured aracaça root, in this State at least, if not in the United States. As it is we have partaken of one, though perhaps not in perfection.

This plant grows differently from any we have ever noticed. We were led to believe from the statements we have read, that it produced roots resembling a cow's horn in shape, and that these were the parts eaten, but if so, our's have failed altogether in this respect. We are inclined to think, however, that these statements are erroneous. The tuber, off set, (or whatever it may be termed) which is used for propagation, resembles somewhat the arrow root, and like it possesses several eyes; these are principally near the crown. At the base, or part where it is separated from the original plant, it produces a number of fibrous roots, and from no other part of the plant have we observed the least appearance of any. On examination we have found none of these exceeding one-eighth of an inch in diameter, but generally not half that size. The growth is altogether upwards. From the crown, shoot in the first instance, several single leaves, each indicating where will be a tuber; from the centre of the foot stalks of these leaves arise others in succession, which were enveloped by those preceding —for the plant is *endogenous*; in the course of time

tubers are formed, which again produce others from their sides, thus forming a very large cluster on the top of the original plant, which does not increase proportionally in size. One of those which we have recently examined, and which was about two inches in length and one in diameter when planted, has increased only to four in length and one and a half diameter, whilst at the same time it has produced sixteen shoots or tubers, varying from three-fourths of an inch to three inches in length. It was the original stem (or plant) after being divested of all the young tubers, that we had cooked; we found it extremely tender, very delicate, a little mealy, and having the flavour of the Irish potatoe and celery combined. Whether such is the taste of the young tubers when in perfection, we hope to determine in the course of the present year.

A part of our plants we took up soon after their tops were killed by the frost; two of these we separated; (the young tubers from the parent, and from each other,) and one we left entire as taken from the ground; these were packed away in dry sand and placed in a potatoe cellar. One plant we permitted to remain untouched in the open ground, merely drawing a little earth over the crown to protect it from frost. On examining these plants to day, (Jan. 17, 1832.) we find that the one left in the open ground, has shot out several leaves, which will in a few days protrude through their covering. The plant which had been left entire and packed away in sand, has also commenced shooting. Those which were first separated and then packed away, remain as at first. We have separated the tubers from the one which was entire and planted a part out; the remainder we shall preserve for future use. From what we have seen of their growth, it appears to us that it would be advantageous to earth them up. This we shall try with some, whilst others shall be left undisturbed. We will vary our experiments as much as possible, and endeavour to ascertain in the course of the approaching season, what probability there is of the aracaça ever becoming of value to us. Should it become so climatised as to be cultivated in the open ground freely, it cannot fail to be of immense value; its present indications are that it will prove very productive. From some interesting particulars respecting this plant, we refer our readers to the article from the pen of Gen. H. A. S. Dearborn, vol. iv. p. 322.

(From the Southern Agriculturist.)

OBSERVATIONS ON THE INJURY SUSTAINED BY REMOVING GREEN VEGETABLES FROM THE SOIL.

MR. EDITOR:

Georgia, Nov. 10, 1831.

One of the most remarkable facts which I remember to have seen in our agricultural journals, is that stated by a correspondent of the middle or lower country of Carolina, published in the last number of your useful work. He affirms, that the eradication of peavines in a green state has so sterilized the land on which the crop grew, that its fertility could not be restored by several years of good husbandry. I do not quote his words, not having the pamphlet before me, but I cannot be mistaken in their import. As depending on the same principle, the writer alleges, on the authority of an old and experienced husbandman, that the clearing of woodlands in the summer, or when the leaf is in full verdure, will have a like deleterious effect on the maiden soil.

Supposing these phenomena to be authentically vouched, I can but regard their explanation as a desideratum of great importance to the Georgial student. Why should the removal of the entire plant so much more injuriously affect the productive properties of the soil, than of the top without the root, as in mowing pea-vines for rough fodder? The top, or vine and leaves of a common cow-pea is, on an average, from ten to twenty times the bulk of the root; yet it seems

* These remarks are, of course, applicable only to our farm and its immediate neighbourhood.

that all this may be safely reaped; whilst the extraction of the root is little less than ruin to the soil. Such a result, I am sure, could not be inferred from any pre-established facts in relation to the improvement and exhaustion of soils, with which I have ever been acquainted. Some of my neighbours, holding the same opinion as the writer, account for the mischief done to the soil by the eradication of green crops by saying, that "when the sap is up, the strength of the ground is in the plant, and this form of harvesting the pea-vine, or other crop, takes the strength from the ground." But to me, this philosophy is unintelligible.

I would respectfully ask of some of your enlightened contributors their views of the subject. H.

(From the New England Farmer.)

PRODUCTIVE PUMPKIN VINE.

MR. FESSENDEN.—After seeing your account of Mr. Whiting's Squash Vine of Lancaster, Mass. which produced 225 lbs. I endeavoured to persuade Mr. J. Cook of this place, to report his crop of pumpkins, but he declines, as I presume from modesty, or from an apprehension that it would not be credited. I am therefore induced to give the information as I received it from himself and the members of his family.

The plant came up single, accidentally, among his early potatoes, and as the potatoes were gathered, occupied the whole space and continued to extend itself until the frost checked its growth, when it contained, from the largest down to the size of a lemon, upwards of one hundred and forty, (and there were many more just set, with the blossom unshed,) seventy-two of which were of good size for use, and twenty-two which were selected for culinary purposes, weighed from 25 to 45 pounds. It is to be regretted that they were not all weighed, and the length of the vine and branches measured, which ran to an incredible length, and were producing new sets faster and thicker, when the frost checked the plant, than at any other previous time. This pumpkin is different from any which Mr. Cook had ever before cultivated or seen. Its shape was, generally, like that of a cheese pumpkin, but the ribs were much more broad and deeply scarified; when growing, of a lighter or duller green; and when ripe, of a nankin colour, or rather darker, heavy for their size, fine grain and small cavity for seeds. The one which he was so obliging as to send me, though of a medium size, with reference to the crop, is as much as I can well lift with one hand, by the stem. The flesh through the ribs, is three and a half inches thick.

Bridgeport, Con.

B.

(From the New England Farmer.)

PROFITABLE ONION BED.

Mr. Aldrich, of Smithfield, R. I. has obtained from an onion bed 40 feet by 20, a crop of onions, which after being washed and tied up in bunches, sold for \$7.83, not including those used in his own family. The produce of an acre, at this rate, would amount to upwards of \$400. The onions were sown in drills 14 inches apart; the ground was often stirred shallow between the rows with an iron rake, and kept free from weeds. Mr. A. has a large kitchen garden in a thriving manufacturing village, and is thus enabled to bring his onions to a good market.

Why are eggs used for clarifying syrup?

Because the albumen, or white of the egg, being coagulated in boiling, combines and rises in a scum with the dregs, when cold. The juice of the fruit of the ochra (*Hibiscus esculentus*) according to Dr. Clarke, contains liquid albumen in such quantities, that it is employed in Dominica as a substitute for the white of eggs, in clarifying the juice of the sugar cane.

RURAL ECONOMY.

(From the New York Farmer.)

TRAINING CATTLE.

There is one subject connected with husbandry which is of considerable importance, and which I do not recollect to have seen noticed by any of your correspondents. I mean the best method of training cattle for labor. To be sure, every farmer's boy who is capable of handling a whip or goad, imagines himself competent to break a pair of steers. On this subject I confess myself wholly unable to impart any instruction or advice, having had but very little experience. I have generally purchased my working oxen ready broke, of different persons, and have never bought two pair which were alike with respect to their propensities for work; I have found the difference to vary and range from very good to good for nothing; some have been kind and docile, while others have been timorous, or vicious and stubborn. What is the cause of this wide difference? Has nature established it? Is it to be found in their natural dispositions, or is it the result of education? The latter I am inclined to believe, and the more so from my observations within two weeks.

Having often been unfortunate in purchasing I resolved to train my own, and commenced last week with a pair of steers coming three years old, which from habit had become rather wild. Having had, as I before observed, little or no experience of my own, yet common sense taught me to avoid the practice of some others, who profess to understand the art and mystery of subduing the most stubborn animal almost in an instant; instead, therefore, of confining one of them till the yoke, ring, staple and all are fastened to his neck, and then setting him loose with this frightful appendage rattling and flying about his head, till the poor animal, "frightened out of his wits" and exhausted with running, stops and stands still for his mate to be served in the same way, by which time having recovered his breath, both are again set loose, tied tail to tail, to perform their very interesting and amusing evolutions; they are now half subdued and the whip soon accomplishes the rest, and teaches them to lead a team. Will not cattle managed in this way; frightened, lacerated, abused and provoked, be likely to remember it, and ever after to be timorous or stubborn? Right or wrong, I managed differently. My first care was to make fast a chain to a post, having ready two pair of steady oxen near by. The yoke was then put on to the first steer, to which the chain was immediately fastened; he made one or two efforts to get away, but finding them unavailing soon desisted; the other was then yoked, and they were led off quietly between the oxen into the woods; they were used in this manner three days in succession, they were not yoked again for several days on account of bad weather, when I directed my boys to yoke them and put them forward in the team, merely to exercise them; this was done then and several times since without the least difficulty—they have neither desisted nor received a stroke of the whip to hurt them.

I am confident that our domestic animals may be so taught, as to make the inhuman and abusive use of the lash, so often witnessed, altogether unnecessary. Is not this a subject worthy of the pen of some one of your humane correspondents, whose practical knowledge enables him minutely to point out the proper course to obtain the desired result?

Andover, Con. Feb. 15, 1832. JNO. TOWNSEND.

INQUIRY.

Grovehill, 18th Feb. 1832.

Sir,—A subscriber to your "Farmer" will be much indebted to the politeness of some one of your numerous readers, who will inform him of the most effectual mode of extracting ink from white mulin or linen.

(From the Baltimore American.)

DESTRUCTION OF BIRDS, &c.

Among the various examples of imprudent legislation may be reckoned the laws in which our State legislatures sometimes think it wise to encourage by rewards the slaughter of birds, &c. which have unfortunately incurred odium with the farmers. The New York American gives some examples of similar foolish hostility among the people, to these luckless *ferre natura*, the effect of which is generally to substitute a greater evil by a supposed removal of a less. The ruinous increase of the Hessian fly some years since, was attributed, and justly, it says, to the great previous destruction of the woodpeckers and other birds feeding on insects. In one district, a war of two or three campaigns was valorously waged against the owls; and straightway the fields were overrun with field-mice. In another, the garter snakes were put under ban, and the consequence was that the grasshoppers, on which the garter-snake feeds, infested the fields in clouds. It is not out of a mawkish humanity, but from a belief that nature will manage this matter best in her own way, that we recommend to those, who would take it out of her hands, the lines of Southey to the spider:

I won't humanely crush thy bowels out,
Lest thou should'st eat the flies.

The same journal very properly censures those wholesale hunts to which *bushels* of squirrels, rabbits, partridges, and other game fall victims in indiscriminate slaughter.

(From the New York Farmer.)

SUGAR FROM POTATOES.

I am informed that in the neighbourhood of Jaffrey, N. H., there is now preparing an establishment for the manufacture of Sugar and Molasses, on a large scale, from potatoes. It is calculated to pay for the potatoes their cash value there, 17 cents per bushel, and nett a profit, above all costs and expenses, of 20 cents per bushel. From each bushel of potatoes, 7 pounds of sugar are made.

Let the friends of the abolition of slavery and the amelioration of the condition of negroes, throughout the world, consider well, and proclaim everywhere, what would be the *happy result* of supplanting or diminishing the consumption of West India sugar, which would be in some measure effected, if every large agricultural town in New England had its sugar works. Attentive observers have noticed that when prices of West India produce are low, their negroes are not over worked and fare better.

Boston, Feb. 1832.

R. P. WILLIAMS.

A detail of the process of making sugar from potatoes, is given in Silliman's Journal of Jan. 1832. It is there said that

"A bushel of Potatoes weighs about sixty pounds, and gives eight pounds of pure, fine, dry starch. This amount of starch will make five pints of sugar of the weight of nearly twelve pounds to the gallon, equal to seven pounds and a half to the bushel of potatoes, or a little less than a pound of sugar to the pound of starch. The sugar is not as sweet as the Muscovado sugar, nor is it actually as sweet as its taste would indicate.

"This sugar may be used for all kinds of domestic purposes. It ferments with great liveliness and spirit, when made into beer, yielding a healthful and delicious beverage, and on distillation, a fine cider brandy flavoured spirit. It would, however, be most useful in making sweetmeats, and may be used upon the table in lieu of honey, for which it is a good substitute. It has already become a favourite with most people who have become acquainted with it. Its taste is that of a delicious sweet, and as an article of diet it is unquestionably more healthful and less oppressive to the stomach, than any other sweet ever used."

WHITE MULBERRY SEED.

Will be received in a few days direct from Europe, at the American Farmer Office and Seed Store, a supply of White Italian Mulberry Seed, warranted genuine and fresh, at 50 cents per ounce. Orders addressed to I. I. Hitchcock will be attended to without delay.

N. B. An ounce sent by mail will be charged with quadruple letter postage for the distance sent.

GOOSEBERRIES.

A few plants remain unsold of the "Red Captain"—one of the varieties (of which an extra number was sent us) of the Lancashire plants lately imported by us from England. The full sets of eight varieties are all sold. Of these we will sell three plants for \$1.

Apply at the American Farmer Office and Seed Store, Baltimore. March 16.

SUGAR MAPLES.

Just received at the American Farmer Office and Seed Store from the extensive nursery of Joshua Peirce, near Washington, D. C. a quantity of Sugar Maple Trees. This is a beautiful ornamental tree, independently of its use as a sugar tree. Those for sale by us are 10 to 12 feet high, and from 2 to 1 inch diameter a foot above the ground line, straight, smooth, and handsome trees. Price in bundles of twenty \$7 50; single trees 50 cents.

ORCHARD GRASS SEED.

A lot of fresh Orchard Grass Seed just received—also Sapling Clover Seed for sale by
March 16. SINCLAIR & MOORE.

FINE FRESH GARDEN SEEDS.

150 lbs. French Yellow Sugar Beet, } for cattle, &c.
130 lbs. Mangul Wurzel, }
8 lbs. White Italian Mulberry Seed.
100 lbs. Mason's Early Scarlet Short Top Radish.
100 lbs. Finest French Long Scarlet Radish.
25 lbs. Scarlet Turnip Radish.
25 " White " do.
45 lbs. Drumhead Cabbage.
20 lbs. Early York do.
12 lbs. Salsify.

For sale low if applied for soon.

WILLIAM PRINCE & SONS.

Lin. Bot. Garden, Flushing, March 9, 1892.

THE HORTICULTURAL GARDEN OF THE LATE ANDREW PARMENTIER, IS OFFERED FOR SALE.



The reputation of this establishment is not confined to the vicinity of New York, but is well known throughout the United States, and different parts of Europe. It is situated two miles from the city of New York, at Brooklyn, Long Island, at the junction of the Jamaica and Flatbush Roads, and contains 24 acres.

The Grounds are in a very high state of cultivation, and laid out with judgment and taste. The situation is very healthy, and the view very extensive, commanding the bay, the city, &c. The Garden is enclosed by a pointed stone fence, and inside of that is a hawthorn hedge. The Nursery contains a fine and extensive collection of Fruit, Forest and Ornamental Trees; also, a splendid collection of Roses and Herbaceous Plants,—the object of its late Proprietor having always been to collect every new variety.

On the premises are a Dwelling House, two Laborers Houses, seven Cisterns, and a never-failing Pump of excellent Water—four Green and Hot Houses, containing a rich variety of rare exotics.

The advantages to be derived by any person who wishes to engage in the occupation of Gardening, by the purchase of this property, are very great; the business already acquired is very extensive, and the prospect already secured is very extensive, and the prospect already secured is very extensive, and the prospect already secured is very extensive.

Terms will be made known by applying to Mrs. PARMENTIER, on the premises.

N. B. Mrs. P. will receive and execute all orders, Feb 10—61.

THORN QUICKS FOR HEDGING.

Just received at the American Farmer Office and Seed Store from the extensive nursery of Joshua Peirce, near Washington, D. C. 10,000 Plants of the AMERICAN HEDGING THORN. They are put up in bundles of 200. Price \$5 per thousand.

GARDEN AND FIELD SEEDS.

J. S. EASTMAN has in 120 bushels CLOVER, the most of which is prime, and 50 bushels of Cow PEAS, TIMOTHY, Tall Meadow Oat GRASS, and Herd SEEDS, and a small quantity of English Lawn Grass SEED. Also just arrived per brig Hyperion an additional supply of Fresh Garden SEEDS; among them are a variety of best Garden PEAS and BEANS. His assortment of Garden Seeds are probably equal to any in this city, and all fresh, and which he will sell on reasonable terms at wholesale and retail.

He would also inform his customers, that he has on hand a large supply of PLOUGHS and other Agricultural Implements, which he trusts will sustain the credit of his establishment.

N. B. Persons making inquiry for my shop and are informed that there is no such person in this city in the Plough Business, will please continue up Pratt street to No. 36, between Charles and Hanover streets, where they will receive prompt and polite attention by their humble servant. J. S. EASTMAN.

FRESH GARDEN SEEDS, AGRICULTURAL IMPLEMENTS, &c.

SINCLAIR & MOORE, Pratt street wharf, offer for sale, a complete assortment of Garden Seeds of the growth of 1831, warranted genuine of their kinds; particular care has been taken to obtain the very best, both of English and American Seeds, specimens of which may be seen growing near their store; among the English Seeds just received, may be enumerated:

Fine Early York Cabbage, fine Early George Cabbage, fine Early Wellington Cabbage, fine Early Sugar Loaf Cabbage, Oat Heart Cabbage, Early Battersea Cabbage, Green Savoy Cabbage, Drum Head Cabbage, Red Dutch Cabbage, Early Purple Cape Broccoli, Late Purple Cape Broccoli, White Broccoli, Common Scarlet Radish, fine Early short Top Radish, a superior article; Early Salmon Radish, Late Salmon Radish, Grand Admiral Lettuce, Tennisball Lettuce, Ice Lettuce, Lazy Lettuce, Corn Salad, Asparagus (Giant) Genuine Brussels Sprouts, Green Curled Borecole, Brown Curled Borecole, Sea Kale, Summer Spinnage, Mangrel Wurzel Seed, White Clover, Luzerne, Perennial Ryegrass.

Together with a great variety of fresh and genuine Garden and Flower Seeds of other kinds, both European and American growth, for particulars, see Catalogues.

GRASS SEEDS.

Sapling Clover, Common Red Clover, White Dutch Clover, Luzerne, Timothy, Tall Meadow Oat Grass, Herd's Grass, Ryegrass, Green Grass for Lawns, Cow Peas for improving Land, also, Seed Oats.

IMPROVED PLOUGHS.

A large stock consisting of the different sizes, with wrought and cast shares of our New Model, not surpassed by any ploughs known to us. McCormick's Patent Ploughs, Wood's Patent cast share Ploughs, the Patent self sharpening Ploughs with steel points, this valuable principle of keeping its points always sharp without snith expense until from twelve to sixteen inches of a steel bar is worn away, recommends it strongly to the public. Barshare Ploughs for rough lands, Hillside Ploughs, Double Mould board Ploughs, Cast Iron Cary Ploughs, &c. Harrows of different sizes and constructions. Improved Cylindrical Straw Cutters, Dutton's Patent, Evans' and common Dutch Boxes, Wheel Fens, Corn Shellers, Steel Hay and Manure Forks, Hoes, Mattocks, cast steel Axes, Socket and Strapped Shovels, Spades, Garden and Pruning Tools.

BOOKS.

McMahon's Gardener, Fessenden, Cobbet, Cox on Fruit Trees.

Fruit and Ornamental Trees and Shrubs in great variety, supplied from our Nursery near Baltimore.

Feb 24, 1892.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—There is not the slightest change in any article of produce. All kinds of flour and grain remain exactly as at our last, nor have we been able to find a single subject for remark, except the old song of "dull times." We are able this week to notice a small quantity of orchard grass seed and to quote its price.

Tobacco.—Seconds, as in quality .800 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; ground and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a —. Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 357 hhd. Md.; 8 hhd. Ohio—total 360 hhd.

Flour.—best white wheatfamily, \$6.75 a 7.25; super Howard-st. 4 87 a 5 city mills, \$4.75 a 4.87; on best, a—; Susq. a—; CORN MEAL 35; Oats, 35; CRACK, best red wheat, .90 a 93; white do. 95 a 1.05, Susq. a— a—Corn, white, 36 a 37—yellow 37 a—, Ryegrass, 65 a 66 —OATS, 35 a 36.—BEANS, 75 a 80.—PEAS, 65 a 70.—CLOVER SEED 5.25 a 6.25.—TIMOTHY 2.25 a 2.75 On-catch. Grass 1.75 a 2.25.—Tall Meadow Oat Grass 2.00 a 2.50.—Herd's, 75 a 1.00.—Luzerne a— a 37 lb. —BARLEY, 25.—Flaxseed 11 a 15.—Cotton-seed a— a 37 lb. 9 a 12.—Alab. 8 a 10.—Tenn. 7 1/2 a 9; N. Car. 8 a 9 1/2.—Upland 8 a 11.—WHISKEY, hds. 15p. 59 a— in hds. 30 a —.—Wool, Washed, Prime or Saxony Fleeced 49 a 57; American Full Blood, 40 a 45; three quarters do. 36 a 40; half do. 34 a 36; quarter and common do. 30 a 34. Unwashed, Prime or Saxony Fleeced, 30 a 34; American Full Blood, 26 a 28; three quarters do. 24 a 26; half do. 22 a 24; quarter and common, 18 a 22.—Hemp, Russia, ton, \$225 a 230. Cotton, dew-rotted 5 1/2 a 7 lb. water-rotted 7 a 8.—Cottons, 36 a 56; Flaxseed Paris, per ton, 4.75 a —, ground 1.50 a —; hbl. Iron, grappig for foundries per ton 33.00 a —; hbl. pig for forges, per ton, 28.00 a 30.00; for Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.00 a 6.00.—Oak wood, 3.50 a 3.75.—Hickory, 5.00 a 5.50.

CONTENTS OF THIS NUMBER.

Editorial—Foreign Markets—On Planting; of the Culture of Plantations, Soil, Pruning, Thinning, Remedies for Accidental Injuries and Natural Diseases of Forest Trees, of the Tanning Afforded by the Bark of the Different Species of Trees, continued from vol. xiii, p. 335.—Letter from John Dickinson on Cheat or Chess.—On Wheat Degenerating to Chess, by Thomas Rowan.—On the Improvement of Southern Agriculture—Result of an Attempt to Cultivate the Arceutha in South Carolina—Observations on the Injury Sustained by Removing Green Vegetables from the Soil—Large Product of a Pumpkin Vine—Profitable Onion Bed—New Mode of Training Cattle—Extracting Ink from White Muslin or Linen; Inquiry—Importunity of Destroying Birds, &c.—Extraction of Sugar from Potatoes.—Advertisements—Prices Current of Country Produce in the Baltimore Market.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, basement of Burnum's City hotel,) by I. IRVINE HITCHCOCK, on the following

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged by the year, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (unless more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

AGENTS—All Postmasters are requested to act as agents for the Farmer; they are authorized to retain \$1 for each new subscriber, and 10 per cent. on all other collections.

Printed by John D. Tey, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, MARCH 23, 1832.

HEXAGONAL MODE OF PLANTING. We have never seen this mode of planting orchards, and corn and other vegetables cultivated in hills, practised, but have no doubt it will, upon a moment's reflection, be considered very far superior to the common, or quadrangular mode. It consists in placing the trees or hills in hexangular position to each other—in the mode of the following diagram:

Fig. 1.

Fig. 2.



The advantages of this mode will be perceived at a glance, on comparing the above diagram, Fig. 1, with Fig. 2, the latter being the common or quadrangular mode. It will be perceived that the trees or hills are exactly the same distance apart each way in both plans, and that the same piece of ground will contain seven rows by the hexagonal, and but six by the common mode. On a square piece of ground every alternate row contains one tree or hill less than the others, and this a loss to be deducted from the amount of gain by this mode; but even with this deduction one-twelfth of ground is saved; or rather we have one-twelfth more trees or hills of corn on the ground than in the common mode, and yet they are the same distance apart. Besides the saving of ground, there is another advantage, particularly in the culture of corn, &c., the plough or cultivator can be run three ways. To lay off ground for planting by this mode, is by no means difficult. If an orchard, lay off the first row in a straight line as in the common mode. Then with a line of double the length of the distance of the trees in the rows, and with a small stake in the middle and at each end, proceed to lay off the next row by placing the stakes at each end of the line by the side of the first and second trees, and carry out the stake in the middle as far as the line will let it go, and there plant the first tree of the second row. To find the place for the second tree of the second row, you have only to change the stake from the first to the third tree of the first row, and again carry the middle stake out; thus proceed with the whole orchard.

To lay out corn land by this mode, run the first course of furrows with the plough in the usual way, then with a line similar to the above, but only double the length you intend your hills of corn to be apart, and with high stakes, ascertain the place of the two first hills of the first row, and the first of the second, and drive the stakes there perpendicularly; then you can, by ranging the two stakes at each side of the triangle, set a stake at each of the sides of the field in a line with them, and run the furrows accordingly.

The advantages of this mode of planting are no apparent to our minds, that we shall certainly practise it in all our operations. Especially in the garden it becomes important. If the same piece of ground, which, in the common mode, will contain 1300 onions, or cabbages, or what not, will contain 1300 by the hexagonal mode, without being any more crowded, we think it becomes us to adopt the latter, especially as it will save the labour of spading and preparing one twelfth of the ground required for a given quantity in the usual mode, or produce us a twelfth more from the same ground.

No. 2.—Vol. 14.

CULTURE AND LARGE PRODUCT OF CORN. We are much obliged to Mr. Devereux for forwarding to us, the following article from the Messrs. Pratts.—We do not doubt the statement as to the quantity of corn produced by them by their mode. We have often heard the facts verbally, and are glad to be able to record them thus authentically. One thing must be borne in mind, that they cultivate the dwarf species, the same as is generally cultivated throughout the northern states; and that with our large species, gourd seed, &c. a greater distance must be allowed between the plants in the drills. We would suggest an improvement in the drills of the Messrs. Pratts; that is, that the hexagonal would be far preferable to the quinquecunical form, which latter is the one they use. All the plants would then be exactly the same distance from each other, measure which ever way you will, while by their mode they are six inches from one plant and eight from another.

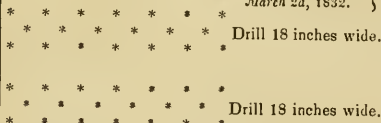
MR. SMITH:

Ulica, March 17th, 1832.

Dear Sir,—I am well acquainted with the Messrs. Pratts, and consider them gentlemen of character and responsibility, and I feel every confidence in the statement they make. Very truly, yours,

NICHOLAS DEVEREUX.

Pratt Hollow, Madison Co., N. York, }
March 24, 1832. }



The above is a view of two drills which are laid out five feet from centre to centre; the drills are opened with a large plough by turning two furrows from each other, then filled with hog or cattle manure, taken from the barns where we fatten our hogs and cattle; the manure is levelled down and covered from two to three inches deep; then we have a tpe made with three slats and points in the latter as thick as we wish the seed, which is six inches one way, and about eight inches the other, making from forty to fifty thousand plants on the acre.

The common way of planting gives only about ten thousand plants to the acre. In the above mode of planting, we have grown 173 bushels of corn to the acre, and we have no doubt but we can grow 200 bushels to the acre with a favourable season and proper soil. That we have grown from 150 to 170 bushels of corn to the acre, we can prove by unimpeachable testimony. We give you full power to make use of our names in relation to any facts contained in the foregoing statement. Yours, respectfully,

J. & M. PRATT.

To Mr. N. Devereux, Ulica.

AMERICAN GRAPES.

Extract of a letter dated Northampton, Virginia, March 9, 1832.

I am very desirous to raise a variety of grapes, and I know that both the soil and climate here are congenial to their growth; I already have many sorts in various stages of their growth, from the scion to the very large vines, in full bearing, but we have amongst us a most inveterate and relentless enemy, not only to the grape, but also the apricot, plum, nectarine, cherry, &c. The *rosebug*, as we call it, (I do not know its entomological name,) has visited us regularly for the last thirty years or more, about the 10th of May, indeed almost critically on that very day, and remains until the 10th of June, when they disappear almost as suddenly and unaccountably as the swallow and the sora; unfortunately, however, during their sojourn amongst us, the vine is beginning to blossom, and that is precisely the state in which they most de-

light to feed upon them, and, quoad the grape, they are just as devastating as the locusts of Egypt. Scarcely a cluster escapes unless by some sort of chance, it happens to unfold the petals before the bugs find it: it is singular that they are not fond of them in that stage, and will not feed upon the open blossom so long as they can find any unexpanded. Another peculiarity in the habits of this destructive insect is, that although they are almost indiscriminate feeders, upon nearly all the fruit blossoms and young fruits, yet they do not eat our native wild grapes, which abound all over this part of the country. I have seen them destroy entirely the bloom of a holly tree, of which they are very fond, and leave untouched a grapevine nearly covering the same tree, and in various stages of its bloom. A knowledge of this fact has induced me to obtain several sorts of our native vines, as Isabella, Catawba, Cooper's wine grape, Muscadell, &c., all of which I have growing thrifly, but none of them have as yet borne fruit, except the Isabella, two or three of which bore a few clusters last year, and to my great gratification and encouragement, they escaped entirely unscathed by this voracious insect, whilst upon several exotic vines, within twenty feet of them, not a solitary grape remained. This is one of the reasons inducing me to try the Herbeumont Madeira, for after attending to the multiplied disputation about its origin, I have arrived at the conclusion, that it is a native of our own country, and therefore have some hope that it may be rosebug proof.

Very respectfully, yours, &c. L. U.

§3. We have apparently departed from our usual course this week, by inserting an advertisement not strictly agricultural in its nature. It occurred to us that many of our farmers would be glad to hear of a Bank in which they could safely deposit their surplus money, and at the same time be drawing interest on it, and accordingly we inserted the advertisement of the Bank of Maryland, which will be found on the last page of this number.

TO REMOVE INK SPOTS FROM LINEN.

Answer to Inquiry.

Mr. SMITH: Baltimore, March 19th, 1832.

Sir,—Lemon juice will effectually remove ink from linen or muslin, if applied before the article has been washed; but as persons in the country may not at all times be able to get a lemon, I would advise them to buy a small bottle of the oil of vitriol, or vitriolic acid, which may be got at the druggists' for a few cents, and will last for years. A few drops of this acid mixed with pure water and applied to the spots of ink, will entirely remove them. Great caution must be observed, however, not to suffer any part of the linen, or other material to come in contact with the acid before it is sufficiently diluted, otherwise the texture of the fabric will be destroyed. I have used it for years with the happiest results—always taking care to keep the vital stopped tight with a glass stopper, and never trusting the operation to the carelessness of servants.

If a subscriber of yours at Grovehill will make the experiment, and observe my restrictions, I will insure him success.

RUTA BAGA IN GEORGIA.—We are highly gratified with the following extract, and have only to recommend others in the south to do likewise:—

Savannah, Georgia, March 4, 1832.

The turnip seed arrived here safe, and I have done with them what perhaps no man in the southern part of our country ever will accomplish. From one acre of ground I have gathered at least 70 or 80 wagon loads of the largest sizes, some measuring 7 inches, and others 9 inches in diameter. This is what we Georgians call doing well.

The *scolytus destructor* is a formidable insect. It penetrates through the bark into the alburnum, on which it feeds, destroying the organization of the bark, and annihilating its functions. In time the bark separates in large masses from the wood, and the tree dies. The elm is most obnoxious to this insect. The pine is also subject to attacks of the same kind, and attended with the like fatal effects.

The larva of the *lasioanaka quercus* sometimes strip the leaves entirely off the branches of the oak. When the trees are young, and the attack is perceived before it has made great progress, the application of caustic lime water, served by the hand-engine before mentioned, is the only topical application we have found practicable, as regards cost, time, and effectiveness.

The different species of coccus or scale-like insects which infest most trees, seldom attain to such numbers as to endanger seriously the health of forest-trees.

The aphid or fly is more common and injurious. Almost every distinct species of tree has a species of aphid peculiar to itself. The glutinous substance which, in hot arid weather, appears so general on the upper surface of the leaves of trees, is produced by these insects. This substance, by attracting other insects, and by arresting smoke and dust on the surface of the leaves, prevents the leaves from performing their healthy functions. For large trees and extensive plantations topical remedies are of course out of the question. In confined cases a solution of soft soap, or of water impregnated with caustic lime and sulphur, are either of them very effectual cures.

The gall fly (*cynips quercus folii*) deposits its eggs in the membrane of the leaves of the oak, and produces those tumours on the leaves called oak galls. The extent of injury inflicted on the general health of the tree has never been observed to be great, or such as to warrant any expensive trial for a cure.

The last disease, or rather defect, that may be mentioned here, is termed *shake*, and should be carefully guarded against in the culture of forest-trees. Trees, though outwardly to all appearance sound in the stem, are often found with spplits of several feet in height from the root upwards. This is frequently caused by strongly bending the stem of a tree from the top when young. The stem of trees in plantations which have been neglected in judicious thinning and pruning, being tall and slender in proportion to the branches of the top, these act as a lever to the wind, and in time produce this blemish in the timber. In carrying out the produce of the thinning of a plantation, as well as in executing the work in a careless manner, the same bad effects are not unfrequently produced in young saplings. The decay which is observed at the lower end of the stems of larch trees, when planted on chalk, or on very damp clay, is clearly the fault of the subsoil, and sometimes appears when the tree is only eighteen years old. In numerous instances we have found it commence at the seventh year's annual layer of wood, and never earlier, and to extend to the thirty-fifth year's layer, but not beyond that growth. In all our observations it appeared to be either within seven and thirty, or thirty and thirty-five years' layers. The fungus, which appears in the defective wood, commences at the higher portion of the main branch of the root connected with the annual layer affected, and proceeds upwards. Its characters are extremely similar to those of the *dry rot*, (*merulius destructans*), so much so, that until more minute observation determine to the contrary, they must be considered identical. It is highly probable, therefore, that the *dry rot* exists in the interior of timber, while the tree is yet growing, although possibly in too inert a state to be distinguished by the naked eye. In the living plant no remedy has yet been discovered for this disease. Judicious planting will ensure prevention by furnishing each distinct variety of soil and subsoil with those species of forest-trees only which are best adapted to

them; and this principle, whether in the herbaceous plants of husbandry, in fruit trees in gardening, or in timber trees in forest planting, is never violated with impunity. Various means have been tried, from time to time, to prevent the appearance of dry rot in timber, as well as to arrest its progress when once begun. The first of these objects is supposed to be gained by seasoning the timber previously to using it. Some recommend the bark to be taken off the tree to a certain height a year before it is felled, and the practice has been tried long ago on the oak, and more recently with the larch. It would appear, however, in the latter case, that when the trees are young, the alburnum or sap wood becomes soft rather than hard under the process.

Another mode of seasoning timber is by immersing the trees in water for a period of one or more years. This practice is considered very beneficial, but it is clear that the necessary proofs cannot be obtained under a period of many years comparative trials of seasoned and unseasoned wood in the same building, and under the same circumstances in the building. The seasoning of wood by subjecting it to a strong heat by means of steam has also been tried, but, as in the former case, time is required to determine its efficacy. When wood is left to the process of nature to become seasoned, the desired effects are more perfectly produced by protecting the wood from rain and sun. Knowles, in his Essay on Dry Rot, recommends the timber to be "kept in air neither very dry nor very moist; and to protect it from the sun and rain by a roof raised sufficiently high over it, so as to prevent by this, and other means, a rapid rush of air." Confined air and a moist temperature encourage the propagation and growth of the *merulius destructans* in a high degree. When unseasoned wood is painted, the latent seeds of the dry rot are thereby encouraged and assisted in vegetating and spreading the fungus or algae with destructive rapidity.

The proper season for cutting down timber-trees is that in which the sap is most quiescent, *viz.*, midwinter and midsummer; but particularly the former. Trees whose bark is valuable require to be felled before the complete expansion of the leaf. From the middle of April to the end of June is the proper time for the oak; the larch should be peeled earlier. The birch having a tough outer cuticle of no use to the tanner, and as this is more easily separated from the proper bark after the sap has partially circulated in the leaves, it is generally left standing until the other species of trees are felled and barked.

The process of barking is, in general, well understood. The harvesting of the bark is of the greatest importance, for if it be suffered to heat or ferment, it loses its colour, becomes mouldy and of little value. The best mode is to make what the foresters term temporary lofts of about two feet in width, and of a length sufficient to hold a day's peeling of bark. These lofts are formed by driving forked stakes into the ground for bearers, about three feet in height in the back row, and two and a half feet in the front; a sloping floor is then constructed by laying loppings between the forks of the bearers. The bark is then placed on the sloping floor with the thick ends towards the top or higher side, the smaller bark is laid on to the depth of six or ten inches, and the broad pieces placed over the whole as a covering to carry off the wet, should rain happen before the bark is sufficiently dry to be stacked. In three or four days it should be turned to prevent heating or moulding, and in ten days, more or less, it will be sufficiently dry to be stacked until wanted for the tanner. In order to prevent fermenting when stacked, the width of the pile should not exceed eight feet. The roof should be formed and thatched as a corn or hay stack. In preparing the bark when ready for the tanner, it is cut into pieces about three inches in length, and weighed. It is sold by weight.

The quantity of tannin contained in the bark of dif-

ferent forest-trees has been ascertained by Sir Humphry Davy, and although the proportion of tannin afforded by the bark varies according as the spring may be favourable in temperature, the following numbers will be found to express nearly their relative values, if the larch cut in autumn be excepted:—

Average of entire bark of middled-sized oak, cut	
in spring	29
of Spanish chesnut	21
of Leicester willow, large size	33
of elm	13
of common willow, large	11
of ash	16
of beech	10
of horse-chesnut	9
of sycamore	11
of Lombardy poplar	15
of birch	8
of hazel	14
of black thorn	16
of coppice oak	32
of oak cut in autumn	21
of larch cut in autumn	8
white interior cortical layers of oak bark	72

In general the bark of the larch is not worth more than half the price of oak bark, and the proportion given to larch in the above table may, therefore, be considered too small. The great disproportion between the produce of tannin afforded by the inner bark and that of outer layers, shews with what care the harvesting of the bark should be performed to prevent fermentation, which destroys the tannin principle first in that portion of the bark containing it in the largest quantity.

The weight of bark afforded by given contents of timber, varies according to circumstances connected with the growth of particular trees, as whether grown in confined air, or in healthy, open situations, also as regards the age of the trees. The statements given by Mr. Monteith, in his "Planter's Guide," are, perhaps, as near to the truth of an average as the nature of the subject will admit, at least they are consonant with the results of our own practical experience.

Every cubic foot of timber affords of bark

	lbs.	lbs.
An oak 40 years old	from	9 to 12
Ditto from 80 to 100 ditto	"	10 " 16
Larch timber, per foot	"	8 " 10
Birch timber, large ditto	"	11 " 14
Willow, ditto	"	9 " 11

The most judicious mode of felling forest-trees is by grubbing up, or taking the solid part of the root with the bole, in every case where coppice stools are not wanted, for the expense of taking up the roots afterwards when either planting or tillage may be demanded on the sites of the felled trees, will be found to exceed that of taking up the root with the stem in the first instance, besides the injury to the immediate fertility of the soil by the introduction of fungi and insects, the first agents generally of decomposition of the roots of felled trees which do not stave or reproduce shoots. Besides the advantages now alluded to, there is another, that of the value of the solid part of the roots of trees. The peculiar structure of many roots afford the best materials for what is termed ornamental rustic work; and also the compact texture of the wood, and the diversified lines of the medullary rays and concentric circles, fit it for the manufacture of very interesting cabinet works.

The root of the larch affords a valuable material for forming knees of boats. Admiral Fleming was the first, we believe, to point out this property of the larch. The lower part of the stem, with the solid root attached, is quartered, and when joined, form knees of a lasting nature,—that part of the wood, the solid root produced under ground, and always in contact with damp, being probably more adapted to withstand the effects of moisture than the proper wood produced in the open air.

(From the New England Farmer.)

MANURES.

Manures are to the vegetable, what grain and forage are to the animal products of the farm; the food which sustains and brings them to perfection. I do not see, therefore, why Swift's commendation will not apply as well to him, who increases the food of vegetables, as to him who increases the food of animals, by causing a new blade of grass to grow. Without, however, meaning to raise a question upon this point, I am anxious to communicate to your readers, one of the best contrivances for saving manure, and all the manure, that I have anywhere witnessed. I saw it at the farm of Dr. Hosack, at Hyde Park. The Doctor is nice in everything he undertakes: and my only fear is, that farmers will be deterred from imitating his example, from a fear that they cannot equal it.

The Doctor's cattle yard is nearly a square, surrounded by an extensive barn on the north, cattle sheds on the east and west, the two latter terminating on the south in two more elevated structures, which serve for farm carriages, implements and work-shops. The whole has a gentle slope to the centre, which is puddled and gravelled so as to become impervious and firm. Over this he has a cheap octagon cover erected, about forty-five feet in diameter, supported by the central and exterior parts and covered with boards. Poles extending under this roof, constitute a comfortable roost for his fowls. This centre forms a reservoir, protected from the storms and the sun, for all the manure of the yard and stables, including urine and hen-dung, into which it is daily collected, when practicable. His stables are double, that is, they admit two rows of cattle, their heads turned from each other; they are paved and sloped to the centre, from whence a paved gutter leads to the stercorary, or central deposit. At a proper elevation in the stercorary, a grate is fixed, opening into a drain, into which the liquids of the stercorary pass, and by which they are conducted to a large tank or cistern in the kitchen garden, which is lower than the cattle yards. This cistern is furnished with a pump, by which this liquid manure is afterwards raised into spouts which conduct it through the garden, or it is taken from the cistern to other grounds. In this way, the Doctor has increased, probably one third, the quantity of his vegetable food. J. B.

Albany Nursery, Feb. 23, 1832.

(From the New England Farmer.)

AGRICULTURE, HARVESTING CORN, &c.
MR. EDITOR:

The science of agriculture is not yet well understood in New England; although many intelligent farmers are beginning to devote much of their attention to it; and many valuable improvements and discoveries have been made. Farmers have much to learn, and much more than they are generally willing to admit. To advance this most important science and spread light among farmers, the publication of the "*New England Farmer*" has already exerted the most salutary influence, and we trust that the great variety of theories, experiments, and useful remarks which enlightened agriculturists may communicate for your paper, will have a certain tendency to dissipate the clouds of mental darkness, which still hang over the prospects of the most useful class of citizens in the community. After the lapse of half a century, those who may then till the soil, will probably look back with deep regret and astonishment, at the gross ignorance under which we now labour, in our agricultural pursuits.

Those who have had an opportunity to examine the fertile, fruitful fields in England, France, and some other countries, will not feel disposed to take offence at my remarks. There the state of agriculture is, perhaps, half a century in advance of its state in this

country. The science of agriculture is not of easy attainment—it embraces much practical and theoretical knowledge, and the knowledge of a great variety of subjects having an intimate connexion with it; and much study, close reflection, and long experience are necessary to its acquisition. In respect to myself, sir, I am ready to confess my ignorance of this science, and the few years in which I have been engaged in agricultural pursuits, and the information acquired in professional studies, tend to force upon my mind the conviction of this ignorance; and at the same time I must admit that I can acquire but very limited information, from mere practical farmers, who are resolved to follow the old beaten path in which their fathers trod. New experiments, the best kinds of seeds, improved breeds of cattle, new methods of obtaining manures, &c., they generally consider *silly notions* of mere theorists, and some even ridicule Agricultural Societies which have been attended with the most auspicious results, in this as well as in other countries.

Those, however, who make useful experiments may, possibly, by giving the same publicity, do some benefit even to that class of farmers.

I therefore, at this time, communicate to you but two experiments (new in this quarter, but not so in some of the southern and middle states,) made on my farm in this vicinity.

I noticed a statement in the N. E. Farmer, by which it appeared that the early topping or cutting corn stalks, proved, upon fair experiment, to be injurious to the ears of corn, and that the corn not topped at all was heavier than that which was topped. All the farmers in New Hampshire, I believe, are in the habit of cutting the stalks while the corn is in the milk, or before the inner part of the kernel is hard. A little reflection convinced me that this practice is wrong. I this year raised between two and three hundred bushels, and suffered no part of the corn to be topped. After the corn was fully ripe, I commenced by having the corn cut close to the ground, tied in small bundles and put into small shocks by the side of the corn field, to dry, and thence conveyed to the barn; a practice which in common seasons will be beneficial—but afterwards I found the corn so fully ripe and dry, standing in the field, that I had it cut close to the ground and conveyed in small loads to the barn, husked immediately and put into a granary made for the purpose, standing on posts, properly ventilated. The result was that my corn was very heavy, large, perfectly sound, and "as sweet as a nut." Many ears were found from twelve to fourteen inches in length. But I plant a large kind of yellow corn; the kernel is very large. Many have expressed an opinion that they never tasted bread, made of it, so sweet and of such fine flavor. I have never known any corn equal to it, although it is well known that we never had a season more favorable to corn. The cattle appear to relish the stalks as well as those cut green—there is no loss in this particular—but a gain, in respect to the under stalks, often left exposed in the field after the corn is gathered.

There can scarcely be a doubt but what the corn will ripen earlier and be heavier, by suffering the tops to remain until the corn is *fully ripe*. It is not fully ripe until the inner part of the kernel becomes rather hard, or is "out of the milk," as farmers say. Then the corn may be topped without injury. Nature does nothing in vain. It is idle to say that the ear of corn derives no nourishment, while green, from the top stalks. Every part of the stalk, leaves and all, are necessary to the growth and maturity of the ear, and the saccharine juice gently oozes into the cob, and from the cob into the kernel until fully ripe. It would be as rational to contend, that the amputation of an arm would not injure a man, as that the cutting the green stalk would not tend to wither the green ear of corn. I am aware, Mr. Editor, that this doctrine stands opposed to the prejudices of farmers generally, yet I fully believe that fair experiments will, not many years hence, induce them to support it.

Another practice among farmers deserves censure. They often pile up their corn in large heaps in the barn, in order to have what is called "huskings." In this pile there are green materials, green stalks, green ears, and foul matter, which, after laying a short time, produce fermentation, the whole heap becomes warm, and tainted with the noxious gases or effluvia that penetrate every part. The corn is afterwards husked, and often placed in rooms not well ventilated. The corn may be sound and look finely—the bread palatable and called good, very good. But the question whether it might not have been rendered *far better and sweeter* with proper management, seldom, perhaps, enters the farmer's mind.

One of your correspondents, an enlightened practical farmer, informed me that he was fully convinced, that corn would not ripen so soon by topping it while green. This is also against the general opinion, but not, therefore, incorrect.—He also stated that he topped a portion of a cornfield, before the corn was out of the milk, in order to feed his oxen, a practice very common; and that where he gathered his corn, that portion so topped, was inferior to his other corn in the same piece, the soil being equal. WM. CLAGGETT.

Portsmouth, N. H. Feb. 13, 1832.

HORTICULTURE.

(From the New England Farmer.)

DWARFING TREES.

The art of dwarfing trees, consists in grafting or budding the desired fruit, upon dwarf varieties of the same genera. Thus the apple is dwarfed by putting it on the paradise stock, and partially by working it on the wild crab; the pear is dwarfed by working it on the quince, or the hawthorn, or wild thorn; the cherry, by grafting on a dwarf variety termed the beach or sand cherry. Fruit trees are also rendered comparatively dwarf and early bearers, by permitting the first side shoots to remain at proper distances to become bearing wood. By annually cutting off the lower branches, to produce standards or high tops, we proportionally delay the season of fruiting. Van Mons, in his successful experiments in producing new varieties of the pear, left the first branches to grow, and thus often obtained fruit in from four to six years from the seed. In this way dwarf plums, peaches, and nectarines, are produced on the stock of the muscle plum. Whatever retards the growth of wood, in a tree of bearing age, induces the production of fruit; and a tree seldom makes much new wood while sustaining a heavy crop of fruit. The precocity of dwarfs is owing to the diminished circulation of sap, consequent upon the sap vessels of the stock being more limited or contracted than those of the graft; or by the maturity of the branches which are suffered to remain near the ground.

It is proper to remark, that *all* pears will not take or do well upon the quince. The words pear, pear and quince, in the table you published, although not understood, and sent to you by mistake, indicate the stock upon which the kinds may be worked with advantage. Those with *quince*, in the column of ripening, produce better on the quince than on the pear. The breaking pears are generally best on the pear stock. I have become so sensible of the advantage of dwarfs for early bearing, that we have sent an order to France for three or four hundred of the best varieties of the pear upon the quince, to supply customers to our nursery. It should also be borne in mind, that in dwarfs, the scion overgrows the stock; and that hence it is necessary to graft near the surface of the ground, or under it. I have several pears now growing upon the hawthorn, which were grafted in 1827; but they have not produced, nor do they promise much. Dwarfs upon the quince should be planted in a quince soil, that is, one that is moist, and rather stiff than sandy. J. B.

Albany Nursery, Feb. 21, 1832.

(From the New York Farmer.)

ON THE CULTURE AND VALUE OF LOCUST.

MR. EDITOR:

Queen's Co. Jan. 30, 1832.

Among the great variety of subjects discussed in your valuable publication, connected with agricultural pursuits, I have not seen any notices of that most valuable of all the different kinds of wood known to our country, the common yellow locust. The most valuable, because of all the varied productions of our forests, no one species of wood is in so many ways preferable to all others.

In ship-building, and house-building; for fences and for fuel, the locust is in almost all respects as good as any other, and in many particulars so decidedly superior, as scarcely to admit of comparison.

The value of this wood not being generally known, as it is rarely found among our primitive forests, and the cultivation of it but little attended to in the new and recently settled parts of our state, is probably the cause why it has attracted so little of general interest. The soil in which the locust appears to thrive best, is of the kind which is generally found upon the necks and promontories on the north shore of Long Island—a light and somewhat sandy loam. It thrives best in the deepest and richest soils of this description, but grows very well in those that are so gravelly and uneven as to be of little or no value for the plough.

It may be grown from the seed, first subjected to the action of boiling water, and planted in nurseries, to remain two or more years previous to transplanting; or when fallen, after having attained some size, numerous sprouts may be obtained by wounding or separating the roots with a plough, which extend for a considerable distance from the body, and run near the surface. In this way an acre may be covered with more than will arrive at maturity, from a dozen well grown trees scattered over that surface.

In the older parts of the state, where the quantity of woodland is reduced to the desirable limits, this wood may be advantageously substituted for other kinds, by introducing it among the sprouts, on woodland recently cut off, in which way, five and twenty trees, on an acre, and in a soil adapted to their growth, would, at the expiration of as many years, when the wood was again subjected to the axe, take the place of the other timber, if care were taken to destroy or retard the growth of the sprouts.

For fence posts, the locust is invaluable, it being durable beyond any other kind of wood. How long it will last, used in this way, is perhaps somewhat uncertain; but it does not admit of a doubt, that an originally sound post, of five inches in diameter, will be good at the expiration of fifty years.

For sills, posts, and those parts of the frame of a building that are subjected to dampness, or exposure to the weather, it is perhaps as durable as iron similarly exposed; and if it should ever become so plentiful, as to admit of being used for the outside covering of buildings, as well as for frames, stone itself would have but few advantages over it.

In ship-building, its value is well known, for certain parts of the frame, and for trunnels, it being incomparably of more value than any other kind of wood used.

For fuel, it is of equal value in all respects, with walnut or the best white oak.

In a kindly soil, there are but few kinds of wood that grow more rapidly than the locust. The walnut, oak, elm, and other kinds of hard wood, are decidedly inferior to it in that respect; but the chestnut and tulip tree, (the common white wood,) particularly the last, will overtop it. Great care, consequently, is required when it is young, and growing among sprouts of this last description, to prevent them from destroying it. In good soils, in twenty years from the seed, and fifteen years from good roots, it will attain a liberal size for fencing uses.

The money value of the locust depends, like all

other productions of the soil, upon its proximity to a market. On this island, a post five inches in diameter, and six and a half or seven feet long, which divided, will make two five-rail fence posts, is worth at least fifty cents: ten and twelve feet long, for yard posts, seventy-five cents. Trees from twelve to eighteen inches in diameter, are worth from fifty to seventy-five cents per cubic foot; and it is no unusual circumstance for the standing wood on an acre of fair growth, to sell for two hundred and fifty and three hundred dollars.

The leaf of the locust possesses an eminently enriching quality, as is evinced by the improved state of the pasture on worn out soils, where this tree is planted. When planted out at regular distances, like a fruit orchard, the grass under and around them on the most indifferent soils, is improved rapidly, and converted into a beautifully green turf, a favourite walk with cattle.

Among the various subjects which address themselves to the attention of our enterprising countrymen, but few are more deserving the interest of farmers and capitalists, than the cultivation of the locust. What better method of investing money, than placing fifty dollars where, in fifty years, it would be worth five hundred dollars? What better inheritance could a farmer provide for his children, than a property of this description? Stick a tree in the ground now and then, was the advice of an old Scotch Laid in one of the Waverly novels, for, said he, "it will grow while ye are asleep."

R. W. M.

(From the New England Farmer.)

PRUNING TREES.

MR. FESSENDEN.—Reading lately some remarks on trimming trees, I was happy to see it recommended to have trees trimmed early in the season. Some fifteen or eighteen years since, when I first began to cultivate trees, I was very much taken up with the recommendations of some scientific horticulturists, on June trimming. As I am not in the habit of carrying the stone to mill because my father and grandfather did; but, unlike many other farmers, rather apt to err on the other extreme; and as the argument in favour of trimming in June was rather a plausible one, (I say argument, for I do not recollect but one in favour of it,) viz: that the wounds heal over sooner when the sap flows freely, than if cut in the fall or winter. This is undoubtedly true, if left bare to the influence of the sun and winds; but if covered over by some kind of composition, as recommended in the remarks above named, the evil is removed at once. If we reflect on the subject, reason will teach us that any considerable number of branches cut from a tree, when they are full of sap, destroys so much of the nourishment of the tree. The sap of trees is drawn from the ground by the fibres of the roots, and ascends to the extremities of every twig, a part of which contributes to the growth of the leaves, blossoms and fruit; the remainder returns between the bark and the trunk, and forms a new growth around every branch, trunk, and likewise the roots. And if the limbs are removed when they are full of sap, we destroy so much of the nourishment.

I will agree that when a person pays proper attention to his trees, from the time they are planted, he can remove the small branches at any season of the year, without any perceptible injury; but this is very different from the common practice in this country, for many of our farmers do not trim their trees oftener than once in five or ten years, and when they do trim them they make a business of it, and cut off a large quantity of wood. The old adage is, that "an ounce of experience is better than a pound of theory." Sad experience compelled me to abandon the practice.

When I first began to graft, I employed a man who used to cut the whole of the top off and all the limbs; as this was commonly done at the season after the trees had put out, the consequence was the death of

one half of my trees; and those that did live, many of them might as well have been dead. The next thing I observed, was some young trees which were set out where I pastured a cow, and which were boxed up; but occasionally the cow would reach up and break off a limb. Notwithstanding I cut them off smooth and covered the wound, I lost many of the trees, and might as well have lost the whole, for what did live were so checked in their growth, that they have not recovered to this day, but remain stunted things. Not so, when, by any accident, they are broken in winter, for if the whole top was removed in the winter, they would give out new branches in the spring, and grow the better for it.

Another objection is, the farmer is always busy in May or June, and if the trees are neglected at a leisure time in the year, they will probably not be trimmed at all. A third and last objection that I shall make is, that without great care in cutting the branches, the bark will be started and many of the buds and blossoms injured.

The composition which I used last spring, to cover the end where the limbs were cut, was made of the following ingredients, viz. one quart of linseed; half pint of japan; one pound and a half of Spanish brown; quarter of a pound of bees-wax; half pound of rosin; and two pounds of tallow. The three last mentioned simmered together, and mixed with the paint, when hot, and put on with a painter's brush, when warm. Where wounds were covered last spring with this composition, it remains on, and has, so far, proved a complete preventive from check or rot, and the wounds, without exception, are healing over.

I have frequently observed that it was the practice of grafters to cut off too much of the tree, when the scions are put in, and to set the grafts too high the centre of the tree. My practice is, when I wish to engraft a tree, to select out from four to six or eight outside branches, the number varying according to the size of the tree, which are cut off at some distance from the body, according to discretion; having this in view, however, to save as much of the old wood as possible, so as to save time in forming the new top, which is engrafted; and the remainder of the tree is left untouched until the next spring. Then the branches are removed around the scions, and more sap flows into the grafts; which practice is continued from year to year until the old wood is all removed, and the whole top formed anew. This commonly takes place from two to four years, according to the size of the tree. By this management you have an entire new head to your tree, open in the centre, which answers two valuable purposes, one to let in the sun, which gives health and vigor to your trees, the other convenience in picking the fruit. Yours, with respect,

B. WHEELER.

Framingham, March 2, 1832.

N. B. The composition mentioned above, I have found excellent to paint all kinds of agricultural implements. It fills up the joints and pores of the wood much better than common paint, and is a complete preventive to rot.

B. W.

(From the New York Farmer.)

FORCING FRUITS AND VEGETABLES.

MR. EDITOR:

Albany, Feb. 25, 1832.

The rapid progress of horticulture in this country, within a few years, has rendered the art of forcing common in some parts of the union; being aware of this fact, I am induced to send you the following remarks, containing some practical observations on forcing fruits and vegetables,—hoping they may, should you deem them sufficiently useful to occupy a place in your paper, stimulate many of your readers to introduce this branch of culture.

To be a practical and experienced forcer it requires the operator to know the nature of the plant intended to be forced—as, for instance, we find the pine-apple to be a native of the E. and W. Indies, and other

tropical regions, whilst the best varieties of the cherry have originated in England, well known to be more cold and moist. These and all other sorts of fruits, must be treated, as near as possible, according to the circumstances under which they grow in the places of their nativity, which I shall endeavour to explain as correctly as my experience will enable me, as I proceed to the different sorts—it being my intention to lay down the treatment of most sorts separately, afterwards to classify those most likely to work together, and to point out the difficulties arising therefrom.

The operation of forcing may be considered as one of the difficult parts of horticulture—it being an act of violence imposed on nature. Considering that the intent of the operator is, to bring fruits and vegetables to perfection at an *unnatural* season, by artificial means, three principal stimulants are required, heat, air, and water. In the act of forcing, artificial heat is required in three different ways: 1st. *dry heat*, from coal, wood, turf, &c., conducted by brick flues, generally along the front of the house or pit, with a furnace adapted to the purpose. 2d. *By steam*, conducted in the same manner, by pipes, either of copper, iron, tin, lead, &c.—the diameter of which, according to the heat required, is from 1 to 2, 3 or 4 inches—and the boiler likewise according to the power and quantity of steam wanted. 3d. *By fermentation* of tanners' bark, horse manure, leaves of trees, and other vegetable substances of a fermenting quality.

External air is also requisite—to be admitted at every favorable opportunity, as few vegetables or fruits can be brought to proper perfection, without the aid of atmospheric air in a greater or less quantity. The air is well known to be composed of the gasses, oxygen, hydrogen, and carbonic acid, and to hold others suspended or mixed—all so necessary to vegetables, that few, when in a growing state, have been known to subsist long without them. In the early stage of forcing, air must be always admitted at the back of the house; and if the external air is very severe, a little fire should be kept up to mollify the cold air as it enters. All plants, in the operation of forcing, should have air admitted, if possible, every day—if in the least possible quantity, it will be of great service, for the internal air, when heated, becomes impure, causing disease and weakness in the plants.

Water is necessary to be applied by the syringe, to moisten the buds, and to render the air moist;—and also to keep down the red spider, and other insects that are often created by dry harsh heat.

I shall not attempt, at this time, to give a practical method of putting the above processes into their various operations. Suffice it to say, that they shall be duly noticed in their proper place—I shall here close this subject with a few general remarks, and in my next paper proceed to cherry forcing.

1. I have noticed, in cherry, peach, and plum houses, that when the fruit of any part of the house has been injured or is thin, it has generally been that part which was the warmest or nearest the furnace.

2. The grape, fig, pine-apple, &c., on the contrary, have the finest and best fruits in the warmest parts of the house.

3. Fruit is often injured in the first stage of forcing, by too much heat, which makes the plants and fruit weakly, and consequently greatly retards their growth, or prevents them from coming to perfection.

AGRONOME.

TO MAKE ARTIFICIAL CIDER.—Take of water twenty-five gallons, moist sugar eleven pounds, tartaric acid eight ounces, spirits of wine (at six degrees) two quarts, elder flowers four ounces; mix and brew them in the regular way. When the fermentation is over, bung up the cask, and leave it quiet for ten days, then fine and bottle off. This production is very agreeable in winter, and is superior to real cider. Each bottle will cost about three pence.—*Jour. des Connoissances Usuelles, March, 1831.*

RURAL ECONOMY.

BLINDNESS IN HORSES.

MR. SMITH: *Morgan Co., Geo. Jan. 30, 1832.*

Sir,—After first giving my best Sunday apologies to you and the readers of the Farmer, for any roughness of language in my answer to "Agricultur," I leave the subject of bots, hoping every person will be satisfied with his own opinion, and invite attention to another subject; inflammation of the eye, and blindness of horses. I do not profess to understand well the disease; I give the result of my own observation only. I have never seen the disease treated on, as I understand it. If my observations are correct, they may induce some persons more experienced and better informed to give us a full account of a disease at present little understood, and generally very badly managed.

Horses are subject to a peculiar inflammation of the eyes, always ending in blindness, which is interesting for three reasons; first, from a hope that proper investigation of the disease may learn us a successful mode of treating it; second, to prevent fraud in the sale of horses, and third, to be able to distinguish accurately when blindness from cataract is unconnected with this disease; for then we may with considerable probability expect a cure from a surgical operation.

When we examine the eye of the horse, we find in the anterior chamber surrounding the pupil, and sometimes nearly closing it, an arborescent appearance, which I believe no other animal has; as this is peculiar to the horse, and as he is subject to a peculiar kind of inflammation of the eye, we have some reason to believe that it may have considerable influence in causing the inflammation, or in producing the dreadful effects resulting from the inflammation; more especially when we notice that it is on this extra part of the horse's eye, that we first discover a disease that is certain to end in a total loss of sight.

If we are in the habit of riding a horse attacked with this disease, the following, as well as I can describe them, are the symptoms with which it commences:—The horse is for some time more than usually disposed to start, requires force to make him approach a bridge, and can scarcely be forced through a mud puddle on the road. These unusual alarms increase upon him until it is difficult to use him; the rider notices something unusual in his horse, and supposes being kept in a dark stable or something else has made him foolish. The eye when slightly examined at this time, presents nothing uncommon in its appearance, but when minutely examined we find this arborescent structure in his eyes larger than common, and floating as it were, in the humor of the eye; after some days, weeks, or perhaps months have passed with this constant disposition to be alarmed, suddenly the horse becomes almost totally blind. Now if we examine the eye very closely we will find this arborescent structure nearly closing the pupil, and projecting so much forward as to touch the inner surface of the cornea, the pupil will be found of a bluish tinge, and sometimes particles of this arborescent growth will be seen apparently torn, and hanging or floating loose in the anterior chamber of the eye. We may now expect directly after the horse to become nearly blind, violent inflammation, the eyelids will swell very much, and close tears will continue to fall from his eyes, and it is very difficult to force the lids open so as to see the eye. The blindness appears to be somewhat relieved as soon as the inflammation shows itself. If I have accurately described the approach of the disease (and I believe I have) it is peculiar in this, that the sight has for some time suffered before the inflammation shows itself, that the inflammation is followed by an improvement of sight, and that during this time the arborescent structure seems to be the seat of the disease.

If the inflammation be well treated, in a week or so the eye recovers, and appears as well as it was before, no defect being discovered for months. If it has not

been well treated the inflammation runs higher, continues longer, and leaves the eye weak, with a bluish tinge; in either case, either from an itching or from want of sight, the horse generally, I may say always bruises his eyelids before the swelling of the eyelids occurs; the owner from finding the head and eyelids bruised, imagines the inflammation was caused from an external injury, and hopes his horse is well; but, sooner or later, probably according to the treatment of the disease and the usage of the horse, the same symptoms are to return only a little worse; this may be considered as certain. This then is another peculiarity of this disease, that it *will* return and continue to return; if well treated the disease goes through nearly the same course, and is again, to appearance, cured, the eyelids being always bruised, a second injury is supposed to have occurred. If not properly treated the inflammation runs higher, and continues longer at every attack. After the second or third attack (I mean under defective treatment) the eye continues tinged with blue after the inflammation ceases, and appears weak, the eyelids remaining mostly closed. After four or five attacks, the cornea is left with some opacity; sight continues defective, and the eyes appear continually more or less inflamed, every now and then, especially after being used, the inflammation will increase, and the cornea become more and more opaque; look carefully and the aqueous humour of the anterior chamber of the eyes will be found tinged with blood; the pupil nearly closed, and the beautiful arborescent structure will be found ragged and broken. After thus continuing for some time, the eye being sometimes a little better, sometimes a little worse; sometimes seeing a little, and sometimes totally blind, the crystalline lens become opaque also, forming cataract, the cornea becomes altogether opaque, the iris and arborescent structure is destroyed, and the lens passes into the anterior chamber. The inflammation now either leaves the eye in this state, totally blind, or continues until the eye sinks; if treated defectively the high grade of inflammation noticed above with swelling of the eyelids, does not return more than four, five, or six times, before the eye receives permanent injury, and goes on to blindness as described. If well treated he may be kept in moderate use for years, the disease apparently getting well every time and returning, the same as before with swelling of the eyelids; the intermissions if I may so call them, become shorter and less distinct, active inflammation with swelling of the eyelids ceases, and the horse becomes blind; this is another peculiarity, that as sure as the horse is attacked so sure will he go blind; good treatment may keep him up for years, but nothing will prevent blindness, at least nothing that I know of. Kentucky horses when brought into Georgia, are particularly liable to go blind in this way, but none are exempt. The best looking eyes are liable to the disease, and neither age nor sex are exempt. I have had the luck of owning many of these horses, and now have one that it appears like Providence determined I should have. Some time ago my brother on his return home from a visit to my house lost one of his carriage horses with colic. I had a very fine saddle horse which had just recovered from a disease of his eyes as above described; his eyes which to appearance were very fine, now looked as well as before I rode him to see my brother, his saddle horse made a good match for mine, as I knew mine would sooner or later go blind, and did not wish to be troubled with him, and hoped the kind treatment and moderate usage he would receive from him might make him serviceable for a long time; I requested him to accept of my horse, which with his would make a fine pair; he did so, but not wishing to be outdone, insisted that I should ride home and accept of his *parade* horse (a first rate Kentucky horse); among other things he highly extolled him for the beauty of his eyes, I did not have this horse a month before his eyes inflamed, and at this time he appears to be going blind very rapidly.

How shall we treat a disease that experience tells us, when once it shows itself is certain in the end to produce blindness, and that without the treatment is vigorous blindness will soon follow? A writer in the Farmer in noticing some of my observations, says he would not feel safe to bleed any animal until they tell. In this case I know not how to dispense with this part of the treatment; my reasons, however, for wishing bleeding pushed to this great extent in horses I think might satisfy him, I have done it very often, and never injured any horse by it. I mention a horse falling dead directly after it, as that part had no connection with the subject, the circumstances were not given. He was bled freely, very severely used in putting in place a dislocated shoulder, and fell on a sharp stump which killed him. There is no danger in pushing bleeding to this extent. The reasons why it should thus far be pushed, will be mentioned when rheumatism in horses is noticed. When then I say this kind of inflammation attacks a horse's eyes we know it is to return; the quicker it is subdued the longer will be the intermission, and the less injury will accrue; a moderate bleeding, such as is commonly directed is as a bullrush opposed to the Nile, 'tis good for nothing; the more free the bleeding the quicker the disease will be relieved, the longer will be the intermission, and the less injury done. Bleed till he falls, diminish his food, and bathe the eyes frequently with cold water; after this free bleeding he should be bled every day or every other day more moderately; until the inflammation subsides, cathartics should, I think, be used. I however, have nothing to say of their effects in this disease from experience; if free bleeding be used in the forming state, the violence of the inflammation will be much diminished. Any one in the daily habit of riding a horse after he has had one attack, will by noticing, always be able to foretell its approach, when it may be very much mitigated by free bleeding. By this treatment, I say the horse may be kept up for years, but sooner or later under any treatment the cornea will be left opaque; when this occurs to a horse under good treatment he is very soon to go blind any how, and I think no further treatment necessary. We can prolong his sight very little, and the little sight he has I believe is worse than none; so soon as the eye is totally destroyed the inflammation ceases, and if a blind horse is of any use to us; at this stage of the disease 'tis best to let him become so, perhaps it would be best to put out his eyes.

But if he has been neglected, and the cornea has become opaque from one of those neglected attacks, something may yet be done to keep him in use for some time; he should be freely bled, a seaton put in the neighbourhood of the eye, and a mixture of equal parts of laudanum and olive oil put in his eyes once or twice a day, until its transparency is restored. I have seen persons fill the hollow over the eye with butter; it will gradually melt and run in the eye. I have seen salt blown through a quill into the eye, and a number of other remedies used, none, however, is equal to laudanum and oil, some persons have an idea by putting out one eye the other will be cured, in this state I have seen it done, but no good was effected by it. When the cornea has once become opaque from neglect it is liable to return with every attack. We may succeed for a while in restoring its transparency by the treatment I have advised, but after a few repetitions it will fail, and total blindness follow. I wish some person would instruct me further in this disease.

I have said it was necessary to understand this disease to prevent being cheated by having such horses put upon us. Every horse jockey almost knows enough of this disease to know it will result in blindness, and after it shows itself, selects a favourable time to put the horse off on some unsuspecting person. Whenever the pupil of the horse's eye has a bluish tinge, and the arborescent structure by looking sideways seems to touch the cornea, purchaser take care. I relate the following anecdote, if it can be so called,

of my purchasing three such horses in one day. I once had a neighbour who was an unaccountably good farmer; I often visited him to view his farm, and he as often returned my visits. He one day came and after dining with me, invited me next day to dine with him and view his crop; during our walk he shewed me a fine mare that he had lately got, which had become blind; upon examination I found she had the disease I have described, and the cornea had become opaque. Sir, said I, I would not tell a trading man lest he should cheat some one, but I can tell you how that mare's eyes may be made to look as well as ever for a while, but she will be sure to go blind. I then told him, to bleed freely, and put laudanum and oil in her eye. Some weeks after this man again came to dine with me, and suggested as I had fine pastures I should buy three brood mares from him. I first objected, and told him he was welcome to use my pastures; he however succeeded in persuading me I ought to raise horses, and now was presented a fine opportunity of buying mares cheap; it was therefore agreed next day I was to visit him, look over the crop in the morning, dine on a good fat turkey and potato pies, and trade in the evening; accordingly I rode over, examined his beautiful crop, eat his fine turkey and pies, and gave my horse and, I think, \$300, for his three mares; one of them was especially recommended for my wife to ride, this very one was the one I had prescribed for, who, now cured of her blindness, and fat, I did not know again; her I rode home, and was quite pleased with my trade, as she was, I thought, worth the money I gave, and either of the others worth more than my horse; but alas! a few days showed all three horses to be blind or nearly so. I had told him how men might be cheated, and he had put a three fold cheat upon me. I however succeeded in making him take back his horses and return me my horse and money; they were, however, I presume, put upon some other persons: so well was this man pleased with the treatment I had directed, that he was always trading horses of this kind. At one court he was sued for three cheats of this kind, by three different men. During his attendance at this court, a horse trader came to trade with him, for these people can find each other out, there is no use of my trading, said he, as I am now sued for trading three blind horses, and you will no doubt do the same; if you can put a blind horse on me, said the trader, you are welcome; say so before witnesses, said my good friend; he did so, and the horse's eyes being well examined, a trade was made, but sure enough he did put a blind horse on him that had been fixed for the purpose.

I have said an investigation of this peculiar disease was necessary, that a proper and correct opinion might be formed, when in blindness from cataract, a surgical operation would prove successful. Some persons to whom I have mentioned my opinions of this disease, have denied its correctness by stating cases of inflamed eyes in horses that had entirely got well; this is not denied; horses not this way predisposed can have their eyes inflamed from common causes and get well, I have no doubt; so also, although in this disease we have cataract produced, yet we have cases of cataract in horses not this way predisposed; in the one case an operation will of course fail, in the other case it will be apt to succeed; to learn to distinguish when cataract is unconnected with this disease is important for the operator.

It perhaps is out of place for me to describe the manner of performing this operation; nevertheless, as I have very often performed this operation on human eyes, and several times on those of the horse, and do not at this time recollect a single instance of failure; it may not be vain for a practical and successful operator to say something of the manner of performing it. The horse has great power in closing his eyelids, he also has the power of retracting the eye deep in the socket, he also has what is called a washer, with which he can nearly cover the eye. From these

causes we are prevented from extracting a cataract. I have tried several times, but failed, and had to couch. Having him thrown and well confined, cause assistants to force his eyelids open, at first they cannot do it, but by continuing the effort; after a while the muscles will relax, and they can be kept open easy. Now if the operation be attempted, he will retract his eye, and throw the washer over so far, as to prevent the operation. To guard against this when the eyelids can be kept open, let the operator put the end of his finger on the eye, the eye will be retracted and the washer thrown over, there hold the finger until the muscles relax; the eye will resume its place and the washer go back, at this moment introduce a large couching needle into the eye; we now have the eye in our power, and can remove the cataract. I have always found it more easy to depress the lens after the needle was introduced in the horse's than in the human eye; in this way I have performed the operation a number of times, and always with success. If it is a perfect case of cataract, and the operation well performed, be careful to have the horse well confined when he gets up, or he will be so alarmed by the return of sight that he will run over fences and everything else that comes in his way. The last one I operated upon, run several miles before he could be caught.

ROBT. R. HARDEN.

PRIZE CATTLE IN ENGLAND.

A meeting of the Smithfield Prize Cattle Club, was held at the Crown and Anchor Tavern, in London, on the 22d December last—Lord Althorp, one of the members of the present British cabinet, in the chair.

The attendance, according to the London papers, was much greater than usual, as the club had intimated their intention of presenting Lord Althorp with a splendid piece of plate for his exertions to promote the interests of agriculture. After the removal of the cloth and the routine toasts, Lord Althorp was presented with the piece of plate, which was valued at 200 guineas, (932 dollars.) His Lordship in returning thanks, expressed his acknowledgments. As this was a meeting to promote the purposes of science, he expressed his hopes that politics would not be entered upon. His Lordship then proposed the health of the Duke of Richmond, (P. M. general,) the new member of the Club. The Duke of Richmond returned thanks in a short speech. He felt great pleasure in becoming a member of the Club, which he considered calculated to promote the interests of agriculture. The health of the noble chairman was drunk, and his Lordship proceeded to distribute the prizes awarded by the judges for the cattle, &c. exhibited at the last show. Among the prizes awarded, we perceive the following:—

A prize of 20 sovereigns, in Class I., to Earl Brownlow, for his 4 year and 7 months old Durham ox; bred by his Lordship; a silver medal, as the breeder of the same; and a gold medal for the best beast shown.

Prize of 15 sovereigns in Class V., to Lord Althorp, for his 7 year and 3 months old Durham cow; bred by L. Spencer; and silver medal, as the breeder, to the Earl.

First prize of 10 sovereigns in Class VII., to Mr. W. Pawlett, for his three 20 months old Leicester wethers, and a silver medal, as the breeder.

Second prize of 5 sovereigns in Class VII., to Lord Althorp, for his three 21 months old Leicester wethers bred by him.

First prize of ten sovereigns, in Class IX., to Sir P. H. Dyke, for his three 20 months old South Down; bred by him, who received a silver medal, as the breeder.

Why is fern preferable to straw for the bed between the layers of fruit?

Because it does not impart that musty flavour which is so often produced by the straw.

Prices Current in New York, March 17.

Beeswax, yellow 13 a 20. Cotton, New Orleans 1.10 a .13; Upland, 8 a .11; Alabama, 8 a .11. Cotton Bagging, Hemp, yd. 14 1/2 a 17; Flax 13 a 14 1/2; Flax, American, 7 a 8. Flaxseed, 7 bush, clean —; rough —; Flour, N. York, bbl. 5.12 a 5.18; Canal, 5.75 a 6.00; Balt. Hwd.-st. 5.37 a —; Rhd. city mills — a —; country, 5.00 a —; Alexand'ia, 5. a 5.37; Fredericksburg — a 5.00; Petersg. — a 5.00; Rye Flour, — a 4.50; Indian Meal, per bbl. — a 3. —; per hhd. 15.75 a —; Grain, Wheat, North, — a —; Vir. 1.03 a 1.05; Rye, North, 81 a 82; Corn, Yel. Nor. 53 a 55; Barley, 1.00 a —; Oats, Sth. and North, .36 a .40; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess 9.00 a 9.25; prime 8.25 a 8.75; cargo — a —; Lard, 8 1/2 a 9; Pork, mess, bbl. 13.00 a 13 50; prime 10.75 a —.

GENERAL AGRICULTURAL AND HORTICULTURAL ESTABLISHMENT.

Comprising,—A Seed and Implement Store, a General Agricultural Agency, and the Office of the American Farmer, in the basement of Barnum's City Hotel, Baltimore;

In Connexion with a Stock and Experimental Farm and Garden in the Vicinity.

By I. IRVINE HITCHCOCK and Gideon B. Smith.

PRINCE'S POMOLOGICAL MANUAL.

SECOND PART.

A few copies of this work will be received in a few days at the American Farmer Office and Seed Store. [The price shall be stated as soon as known by us.]

BUFFALOE BERRY TREES.

A few more are engaged and will be received in a few days at the American Farmer Office and Seed Store. Price \$1 each.

SUGAR MAPLES.

A further supply of these beautiful trees received this day, and for sale at the American Farmer Office and Seed Store. Price 50 cents each, or \$7.50 for a bundle of 20 trees.

PUMPKIN SEEDS.

A quantity of Field Pumpkin Seed for sale low at the American Farmer Office and Seed Store.

WHITE MULBERRY SEED.

Will be received in a few days direct from Europe, at the American Farmer Office and Seed Store, a supply of White Italian Mulberry Seed, warranted genuine and fresh, at 50 cents per ounce. Orders addressed to I. J. Hitchcock will be attended to without delay.

N. B. An ounce sent by mail will be charged with quadruple letter postage for the distance sent.

GOOSEBERRIES.

A few plants remain unsold of the "Red Captain"—one of the varieties (of which an extra number was sent us) of the Lancashire plants lately imported by us from England. The full sets of eight varieties are all sold. Of these we will sell three plants for \$1. Apply at the American Farmer Office and Seed Store, Baltimore.

THORN QUICKS FOR HEDGING.

Just received at the American Farmer Office and Seed Store, from the extensive nursery of Joshua Peirce, near Washington, D. C. 10,000 Plants of the AMERICAN HEDGING THORN. They are put up in bundles of 200. Price \$5 per thousand.

ORCHARD GRASS SEED.

A lot of fresh Orchard Grass Seed just received—also Sapping Clover Seed for sale by

SINCLAIR & MOORE.

Fruit and Ornamental Trees and Shrubs in great variety, supplied from our Nursery near Baltimore.

BANK OF MARYLAND,
Baltimore, Dec. 24th, 1891.

By a resolution of the Board of Directors of this Institution, the following scale and rates have been adopted for the government of the officers thereof in receiving deposits of money subject to interest, viz:

For deposits payable ninety days after demand, certificates shall be issued bearing interest at the rate per annum of 5 per ct.

For deposits payable thirty days after demand, certificates shall be issued bearing interest at the rate of 4 per ct.

On current accounts, or deposits subject to be checked for at the pleasure of the depositor, interest shall be allowed at the rate of 3 per ct.

By order, R. WILSON, Cashier.

GARDEN AND FIELD SEEDS.

J. S. EASTMAN has in 120 bushels CLOVER, the most of which is prime, and 50 bushels of Cow PEAS, TIMOTHY, Tall Meadow Oat GRASS, and Herd SEEDS, and a small quantity of English Lawn Grass SEED. Also just arrived per brig Hyperion an additional supply of Fresh Garden SEEDS; among them are a variety of best Garden PEAS and BEANS. His assortment of Garden Seeds are probably equal to any in this city, and all fresh, and which he will sell on reasonable terms at wholesale and retail.

He would also inform his customers, that he has on hand a large supply of PLOUGHS and other Agricultural Implements, which he trusts will sustain the credit of his establishment.

J. S. EASTMAN,
Pratt street, near Hanover.

FRESH GARDEN SEEDS, AGRICULTURAL IMPLEMENTS, &c.

SINCLAIR & MOORE, Pratt street wharf, offer for sale, a complete assortment of Garden Seeds of the growth of 1891, warranted genuine of their kinds; particular care has been taken to obtain the very best, both of English and American Seeds, specimens of which may be seen growing near their store; among the English Seeds just received, may be enumerated:

Fine Early York Cabbage, fine Early George Cabbage, fine Early Wellington Cabbage, fine Early Sugar Loaf Cabbage, Oat Heart Cabbage, Early Battersea Cabbage, Green Savoy Cabbage, Drum Head Cabbage, Red Dutch Cabbage, Early Purple Cape Broccoli, Late Purple Cape Broccoli, White Broccoli, Common Scarlet Raddish, fine Early short Top Raddish, a superior article; Early Salmon Raddish, Late Salmon Raddish, Grand Admiral Lettuce, Tennisball Lettuce, Ice Lettuce, Lazy Lettuce, Corn Salad, Asparagus (Giant) Genuine Brussels Sprouts, Green Curled Borecole, Brown Curled Borecole, Sea Kale, Summer Spinage, Mangel Wurtzel Seed, White Clover, Luzerne, Perennal Rye Grass.

Together with a great variety of fresh and genuine Garden and Flower Seeds of other kinds, both European and American growth, for particulars, see Catalogues.

GRASS SEEDS.

Sapping Clover, Common Red Clover, White Dutch Clover, Luzerne, Timothy, Tall Meadow Oat Grass, Herds Grass, Rye Grass, Green Grass for Lawns, Cow Peas for improving Land, also Seed Oats.

IMPROVED PLOUGHS.

A large stock consisting of the different sizes, with wrought and cast shares of our New Model, not surpassed by any ploughs known to us. McCormick's Patent Ploughs, Wood's Patent cast share Ploughs, the Patent self sharpening Ploughs with steel points, this valuable principle of keeping its points always sharp without smith expense until from twelve to sixteen inches of a steel bar is worn away, recommends it strongly to the public. Barshare Ploughs for rough lands, Hillside Ploughs, Double Mould board Ploughs, Cast Iron Cary Plough, &c. Harrows of different sizes and constructions. Improved Cylindrical Straw Cutters, Daton's Patent, Evans' and common Dutch Boxes, Wheat Fans, Corn Shellers, Steel Hay and Manure Forks, Hoes, Mattocks, cast steel Axes, Socket and Strapped Shovels, Spades, Garden and Pruning Tools.

Feb. 24, 1892.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—The dearth in the produce business continues, and as usual we have very little variation in prices to notice. Flour and wheat remain the same as before; corn has advanced a little owing to the comparative shortness of the supply; oats have also advanced from the same cause.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 8.00 a 9.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrycrop, suitable for segars, 6.00 a 10.00; yellow and red, 5.00 a 10.00; Virginia, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Kentucky, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.10. The inspections of the week comprise 804 hhd. Md.; 51 hhd. Ohio—total 355 hhd.

Flour.—bes white wheatfamily, \$6.75 a 7.25; super Howard-st. 4.87 a 5 city mills, \$4.75 a 4.874 on time, a —; Susq. — a —; CORN MEAL bbl. 3.50; Grain, best red wheat, 90 a 95; white do. 95 a 1.05, Susq. — a —; CORN, white, 40 a —; yellow 42 a —; Rye, 60 a 65 — OATS, 56 a 37; BEANS, 75 a 80; PEAS, 65 a 70 — CLOVER—SEED 6.00 a 6.50 — TIMOTHY, 2.25 a 2.75 — ONCHARD GRASS 1.75 a 2.25 — Tall Meadow Oat Grass 2.00 a 2.50 — Herd's, 75 a 874 — Luzerne — a 374 lb. — BARLEY, — FLAXSEED 14 1/2 a 15 — COTTON, Yel. 74 a 9 — Lou. 9 a 12 — Alb. 3 a 10 — Tenn. .74 a 9; N. Car. 8 a .94 — Upland 8 a 11 — WHISKY, hhd. 1st. 25; in bbls. 29 1/2 a 30 a — Wool, Washed, Prime or Saxony Fleeces 4 a 57; American Full Blood, 40 a 45; three quarters do. 36 a 40; half do. 34 a 36; quarter and common do. 30 a 34. Unwashed, Prime or Saxony Fleeces, 30 a 34; American Full Blood, 26 a 28; three quarters do. 24 a 26; half do. 22 a 24; quarter and common, 18 a 22 — HEMP, Russia, ton, \$25 a 230; Country dew-rotted, 5 1/2 a 7c. lb. water-rotted, 7 a 9c. — Feathers, 36 a 37; Plaster Paris, per ton, 4.75 a —, ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Susq. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.00 a 6.00 — Oak wood, 3.50 a 3.75 — Hickory, 5.00 a 5.50.

CONTENTS OF THIS NUMBER.

Editorial; Hexagonal Mode of Planting; Culture and Large Product of Corn; American Grapes; To Remove Ink Spots from Linen, &c.—On the Cultivation and Mode of Planting Ruta Baga—On Planting; of the Culturer of Plantations, Soil, Pruning, Thinning, Remedies for Accidental Injuries and Natural Diseases of Forest Trees, of the Tanning Afforded by the Bark of Different Species of Trees, continued—On Saving Manures—Agriculture: Proper Time for Topping and Harvesting Corn—On Dwarfing Trees and the Advantages thereof—On the Culture and Value of Locust Trees—Propriety of Pruning Trees Early; Composition to Cover the Wounds—Practical Observations on Forcing Fruits and Vegetables—Letter from Dr. R. R. Harden on a Peculiar Disease of the Eyes of Horses which generally Causes Blindness; Manner of Operating on it—Price Cattle in England—Advertisements—Prices Current of Country Produce in the New York and Baltimore Markets.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, basement of Barnum's City Hotel,) by I. IRVINE HITCHCOCK, on the following

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged by the year, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements inserted with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

GG—All communications requested to act as agents for the Farmer; they are authorized to retain \$1 for each new subscriber, and 10 per cent. on all other collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, MARCH 30, 1832.

HARD NAMES.—Much complaint is made of the use of "hard names" in reference to plants, &c., and seemingly with great justice. Common people cannot understand them—"*Bromus Secalinus*," say they, "what's that?" This subject is pretty well treated in the following article from the Genesee Farmer; but the true reason for the use of such terms is not given; viz: the establishment of a universal nomenclature or vocabulary, by means of which every plant shall be called by the same name, and described in the same terms in all countries and in all languages—the same in Germany as in France, in England as in Spain, the same by our Antipodes as by ourselves. At present it must be admitted, that there is a great "confusion of tongues" in reference to the names of the most common plants. Almost every neighborhood has its own peculiar name for almost every thing of the vegetable kind; and a writer would not be understood if he were to use such names by any one but those of that neighborhood—indeed he is under the necessity of using such names as will be recognized by persons of all parts of the country, or abandon the object of his writing. There are besides thousands of names applied to different plants in different parts. If a writer were to speak of *hemlock*, he would be mistaken by two classes of persons, and not understood by a third. In the northern states he would be understood as referring to *Abies canadensis* (we are obliged even here to resort to the "hard name") by medical men and many people of the middle states, to *conium maculatum*; and not understood at all by most people south of the Hudson, and east of the Alleghany mountains. By the use of the local names, writers would certainly not be understood by the people of foreign countries. Hence the necessity of a universal language. There is, besides, a great convenience in a plant being called by the same name every where. We have ourselves lost no trifling sum by this very confusion of names. An instance or two must suffice. We had heard the asparagus being highly spoken of, and sent to New York for it—it proved to be the yard long pod, of which we had abundance; the same with the Rhode Island bean, which proved to be the refugee. We have often sent for the Brussels sprouts, and as often received the seed of German greens, until we received it from a friend at Paris; we sent for the "flour corn" of the north, after receiving a very favorable account of its quality, and received the *Tuscarora*, of which we had plenty; we ordered the rose lettuce and received the tennis ball, of which we stood in no need; we have twice received the purple egg plant seed, after requesting the "beef stake fruit," and the "oyster apple," by which names it was called in the different places, and of which we had heard high praises. Several persons have applied to us for "gumbo seed," and have accused us of selling them *okra*, of which they had enough before. We could indeed fill this sheet with similar instances of loss and vexation, caused by this confusion of names;—enough however has been said to show the convenience of a universal system of botanical names; and it is to attain this object that the "hard names" complained of have been adopted. These names, however, are "hard" only to those to whom they are new—any other new word would be just as hard to use as any of them. The Latin language has been chosen because it is the most generally understood among the different nations, and is the most expressive; add to which, the nations would not adopt the common language of any particular one, each having just as much right to have its own adopted as the others. There is an inconvenience in the arbitrary use of botanical names, but not so great a one as their rejection would bring back upon us—to wit, that above

described; and therefore the common English name should be given when it can be done without detriment to the great object of a universal nomenclature. We believe it would be far better, however, to discard all common, and adopt the botanical names at once from all our writings, than even to give both; for then we should soon all become as familiar with the true names as we are now with the spurious ones. This, however, is supposed to be impracticable; but we are convinced that the object can never be accomplished without it, for while common names are used people will not trouble themselves to learn new ones. In introducing new vegetables, at all events, we shall never use any but the botanical name; so far we are determined to go. We have already succeeded in the pretty free introduction of one name, the *Quinoa*, (pronounced *Keneua*.) Had we used the name commonly applied to it by writers when it was first noticed, it would now have been called *rice*, and then another confusion would have been the consequence.

That our readers may judge of our efforts to produce a uniformity of names, we will state, that we have imported from one of the first houses in Paris a full assortment of beans, comprising sixteen varieties, for the express purpose of getting the true names, many of which are entirely new in this country. These we shall cultivate, and those which prove very good we shall keep at our establishment under their proper names.

(From the Genesee Farmer.)

Our correspondent A. S. can hardly realize the difficulty attending the subject to which he alludes. From the extent to which botanical researches have been carried, the number of plants have been increased, so that few people can ever expect to become familiar with all those species at present arranged in our standard Botanical works, much less with the different varieties of each species.

To facilitate the study of botany, all plants have been arranged in classes, these classes have been divided into orders, orders have been divided into genera, genera into species, and species into varieties.

In the case of maples, as mentioned by A. S., which belong to the eighth class and first order, and genus *acer*, under which head Miller enumerates twenty different species, each of which contain a vast number of varieties, many of which are not known among us by any common names; and when we wish to speak of them we are compelled to have recourse to some botanical work; and here we find, for the reasons above given, that writers have been compelled to make use of such terms or names as were the most brief, and at the same time the most descriptive; and having adopted the Latin, we are compelled to follow them: but it is our intention in every case where we give the Latin name of a plant, to follow it with a common name if there is any, as suggested by our correspondent; and we hope the writers for the Farmer will, when consistent, adopt the same course.

In giving common names, some confusion may also occur, as the same plant may be known to different individuals by different names, which we have shown to be the case with the sycamore, there being two different trees known at this time by people of the United States, both of which are different from the tree formerly known by that name.

Where a particular variety of plant cannot be designated without resorting to its botanical name, we hope our readers will excuse us for using it, however jaw-breaking and uncouth it may appear to them.

(From the New York Farmer.)

ROBBING GARDENS.

I am by occupation, a farmer; and have always worked hard for a living. I have but a small piece

of land, and I endeavour to cultivate it to the best advantage. There is a very good orchard of fruit trees upon it, consisting of the apple, the pear, the peach, the plum, &c.; and these I have cultivated, for years, with the greatest pleasure, sparing no pains, or expense, or labour about them.

My garden too is the source of much profit, pleasure and satisfaction, producing a great variety of fruits. Water-melons and musk-melons I generally raise in great plenty; and I will venture to say, that no one takes more pleasure, in imparting such bounties of Providence, to friends and neighbours, than I do; although I procure them with much toil and "sweat of the brow."

But, notwithstanding I never deny fruit to any who take the trouble to ask me for it, yet I am constantly haunted and harrassed, and more particularly during the night time, by *fruit-stealers*. This, in fact, has become so serious a matter, that I have had thoughts, sometimes, of "pulling up stakes," to use a well known figure, and of removing to some other place, where I can be free from such molestation.

Many, it is well known, will plunder a garden in this way, who pass for persons of fair moral character. But let such remember that, one who wanders at midnight, like the prowling wolf, through the gardens and orchards of others, not only eating, but often destroying, with the utmost wantonness, the fruit that comes in his way, is no less a felon, at the court of conscience, than the horse-thief or pick-pocket.

The evil under consideration is general, we all know, throughout the country. And what can be done to prevent it? Let us look at the law upon this subject. "Every person who shall wilfully commit any trespass, by maliciously cutting down, topping, girdling, or otherwise injuring any fruit, or ornamental shade tree, or by severing from the freehold, any produce thereof, or any thing attached thereto, shall, upon conviction, be adjudged guilty of a misdemeanor, and shall be punished by imprisonment in the county jail, not exceeding six months, or by a fine, not exceeding one hundred and fifty dollars, or by both such fine and imprisonment."

Now, permit me to make the suggestion.—Would it not be proper and advisable, for our agricultural and horticultural societies to offer premiums to those who detect *fruit-stealers*? To me there appear some reasons why they should do so. At all events, I think the law above quoted should be known to all who live within its power; and I think that editors of papers, throughout the state, would be doing their duty to publish it as often as once a year.

A NEW SUBSCRIBER.

WHITE-WASH—INQUIRY.

MR. SMITH:

Brotherton, March 24, 1832.

Sir—A subscriber to the Farmer, will be much indebted to some of your numerous readers, who will inform him through the Farmer, of a mode of making white-wash for out houses, and garden palings, that will withstand the weather, better than that which is commonly made simply of lime slaked to a proper consistency.

(From the New York Farmer.)

SILK.

Mr. Van Schaick, from a select committee of the House of Representatives of this State has made an interesting report upon the culture and manufacture of silk, and introduced a bill to encourage the propagation of the mulberry tree, and the culture of silk.

The bill directs the Secretary of the State to compile and publish a treatise upon the subjects referred to in the report;—which, with certain quantities of white mulberry seed, are required to be sent to the several counties of the State.

AGRICULTURE.

(From the Library of Useful Knowledge.)

PLANTING.

(Continued from page 11.)

CHAPTER VII.

Of the progressive increase of size or produce of wood in different species of forest-trees. Of the mode of valuing plantations—present value—prospective value of certain individual trees which have attained to great maturity. Of the products of plantations, and of the terms used by foresters to denote these products.

It is a common observation, that the slower a tree grows the harder is its wood. This statement, as applicable to trees of different species or genera, as, for instance, between the poplar and the oak, is generally correct, but between individual trees of the same species, two oaks, for example, the observation will be found not to apply; indeed the reverse will be found proved if we examine into the facts which bear directly on the point. In every plantation we find that the individual trees composing it vary considerably in what is termed quick or slow growth, and that in all plantations where the pruning and thinning have not been judiciously executed, the trees which stand on the outside of the plantation, or on the sides of the drives, are larger, say double the size, or have been of much quicker growth than those in the interior of the plantation. Now the greatest comparative degree of strength and hardness of the woods of the two trees is proved to be in that of the larger, or the tree whose growth was most rapid and vigorous—the sap wood being of course larger in the fast-growing tree, as are all the annual layers of the heart wood. If the reader will look back to where the structure of the wood of different species of trees is described and figured, it will be seen that the wood of the oak, a comparatively slow-growing tree, is distinguished from the wood of the poplar, a fast-growing tree, by having the cellular structure comparatively confined to the concentric circles which mark the annual increase of wood; that the number of cells between these concentric circles are few, though of a larger diameter, while in the wood of the poplar they are dispersed in great number, or crowd the whole surface of a section of the wood. If the hard wood of the locust be compared to the soft wood of the fir, to the laburnum, the lime, sweet chestnut, to the horse chestnut, and every hard and durable wood to the soft and non-lasting kinds, the same clear and marked distinction will be evident, i.e. the hard, tough, and durable woods have the cells chiefly confined to the annual rings, or thinly scattered in irregular groups, leaving comparatively wide intervals of apparently solid fibre, while all the soft or non-lasting woods have the entire substance pervaded with minuter cells, in number and regularity that may be compared to the texture of fine lace or net work.

These then are the external discriminating characters of hard and of soft woods; and let us now apply these to distinguish the woods of fast and of slow growing trees of the same species, and we find that the wood of the fast-growing tree has wider intervals between the concentric circles, or congeries of cells, or, in a word, fewer cells to the size or diameter of the wood, and is consequently wood of greater strength, toughness, and durability. The experiments of Professor Barlow on the strength of different woods confirm the above conclusions. The opinion of Thomas Andrew Knight, F. R. S., on this important subject is, that the toughest and most durable oak timber is obtained from trees of vigorous, rapid growth. The property of quick growth, in some species of trees, however, is confined to their earlier stages; in others it is not developed until they have stood several years in the soil, and in several the rate of annual increase

of wood continues steady comparatively until the trees attain full maturity.

The locust-tree (*Robinia pseudo-acacia*), for instance, will outstrip the oak in the first ten years of their growth by a rate of increase at least double that of the latter, but afterwards the oak will gain upon the locust, and its rate of progress will continue superior. The silver fir increases comparatively at a much inferior rate to the larch and other fast-growing trees, for ten or more years, but in general it passes all these trees in height and in circumference by the thirtieth or fortieth years of its growth.

The comparative rate of increase annually of the following forest-trees is, in the average of cases, nearly in the following order:

Poplar,	for the first	50 years of growth.
Bedford willow	do.	25 ditto.
Birch	do.	20 ditto.
Larch	do.	60 ditto.
Sycamore	do.	50 ditto.
Pine	do.	60 ditto.
Silver fir,	after the first	30 ditto.
Alder	do.	25 ditto.
Locust	do.	15 ditto.

Trees of slower growth, but more equal in the rate of annual increase throughout their progress, are Elm, ash, beech, sweet chestnut, oak.

On comparing a variety of measurements made of different trees on the same soil, and also of these in soils of different natures, the increase of the oak to that of the larch, at sixty-five years of growth, proved to be as 6 to 3.6 nearly. The silver fir stood to these in the proportions of 8 to 6 and of 9 to 3.6.

When a tree has attained to full maturity, or to as large a size as the nature of the soil and situation are capable of inducing, the annual production of shoots from the extremities of the top branches is scarcely perceptible. When these begin to decay, and the tree gives indications of soon becoming what is called *stag headed*, the profitable increase of timber has ceased in that tree, and it no longer occupies the ground profitably. The most profitable stage of growth, however, at which a tree may be taken, must be determined by the state of the market and the demand for particular produce. The only certain rule is, to ascertain the annual increase of timber in the tree, and determine thereby whether the value of that increase be equal to the annual interest of the sum the tree would bring, if felled, in addition to the charges of the land it occupies.

The following statement of the increase of trees at seventeen years of growth in the climate of Devonshire, on a porous soil, prepared by trenching, and planted in the most judicious manner, according to instructions by the Duke of Bedford, will show the comparative value of different species of forest-trees, as regards their property of affording early produce on a soil of the nature mentioned.

	Girth or Circumference at Two Feet from the Root.	Girth or Circumference at Seven Feet from the Root.
Poplar	In. 41	In. 37
Larch	37	324
Pine	324	254
English elm	32	26
Silver fir	284	25
Spruce	27	22
Chestnut	27	22
Birch	25	20
Sycamore	24	20
Beech	23	21
Oak	23	13
Ash	20	17

The heights of the trees were in full proportion to the girth, and the measurements are an average of the dimensions of six trees of each of the species respectively; there were numerous instances of individual trees exceeding any of the above in girth and length.

Comparing the above with the former order of the rate of annual increase, the silver fir is found to be

much lower in the rate of early produce in the first instance, but the genial climate in which the trees mentioned in the latter statement were cultivated will readily account for the discrepancy. In the higher grounds of Blair Adam before referred to, the silver fir is of slower growth than any of the trees mentioned in its early stages, but after that overtops them to a considerable height. The sweet chestnut, in the soil and local climate which thus rear the silver fir ultimately to such a high superiority, stands at the lowest point on the scale, while, in the more southern latitude and lower elevation, the chestnut takes precedence of the birch, sycamore, beech, oak, and ash. Local circumstances connected with soil, climate, and culture interfere with the idea of drawing general conclusions from these facts to be considered as data to guide the practical planter in every case; but to the value of plantations, which have only reached to their first stages of growth, these facts are of more extensive application, as showing the importance of estimating justly the effects of these agents in the progressive or annual rate of produce of timber in different species of forest trees.

The present value of a plantation is that which the market will afford for its produce at the time the valuation is made.

Prospective value is that to which the trees will attain at a remote period, or that to which they may arrive at full maturity, according to their respective species, and best fit the purposes for which they are most esteemed.

When a plantation is only of a few years growth, the value of the produce is too insignificant to be estimated, and the growth of the trees is often then so undetermined as to render it difficult to calculate the ultimate results in this case; and when property is to be transferred, the cost of planting and the rent of the land occupied, with the sum of compound interest on the amount of these, must be taken as a just valuation.

When trees have reached to eight years of growth, their value is so small as to be below estimating; they will, however, by this time afford certain evidences on which to found calculations of their ultimate produce and value. Until trees have attained to a full timber size, the valuation of a plantation ought to proceed on the principle of prospective value. This includes, first, the number of years the trees will require to arrive at full maturity; secondly, the marketable value of the trees when at that perfection of growth; thirdly, the value of the periodical thinnings and of underwood. From the total amount of these sums must be deducted compound interest for the period the trees require to attain maturity; the remainder will represent the present transferable value of the plantation.

Thus on three and a quarter statute acres of a sandy soil, worth from five to twelve shillings per acre per annum when under pasture, larch had been planted in 1810, and in 1826 it was desired to ascertain the prospective value of the plantation for 1851.

The trees amounted to \$311, of which 1,000 were fit for fuel only, and required to be removed for the benefit of the healthy trees. The periodical thinnings being estimated every five years, this plantation would afford in

Trees.	s.	d.	£	s.	d.
1831, thinnings 600	10	10	25	0	0
1836,	560	1	42	0	0
1841,	504	2	63	0	0
1846,	212	6	0	63	12
Underwood cut at three periods, including 1,000 stunted trees, fit only for fuel			6	0	0
			119	12	0

Timber Trees standing in 1851.

Largest sized trees 68, containing, on an average, each 80 feet of timber, at 1s. per foot	102	0	0
Second size 238 worth 10s. Od.	119	0	0

Third size 129 worth 6d. 3s.	40	0	0
Total value of periodical thinnings, and of standing timber in 1851	380	12	0
Deductions.			
Deductions for present payment.	£ s.	£ s. d.	
Disc't on 3 0 value of cuttings in 9 years	1	1	4
Ditto 3 0 ditto 9	1	1	4
Ditto 25 0 for thinnings in 5	5	8	3
Ditto 42 0 ditto 10	16	4	4
Ditto 63 0 ditto 15	32	14	0
Ditto 63 12 ditto 20	59	16	8
	96	5	11
Therefore prospective value as before	380	12	0
Deductions as above	96	5	11
Present or transferable value of the above plantation	284	6	1

From these details it will appear that an intimate knowledge of the habits of growth of the different species of forest-trees, and of the influence of soil and local climate on their periodical increase of timber, is absolutely required in the business of valuing plantations prospectively.

In settlements and divisions of landed property an accurate knowledge of the prospective value of all the plantations under full grown timber on the estates, is doubtless of great importance. The question of the comparative advantages and disadvantages of the occupation of land by forest-trees, and by corn and herbage, is one about which there has been much difference of opinion. There are those who contend that the former is most advantageous, and others again argue, that for every purpose of private and public advantage, the latter is immeasurably superior. The truth lies between; for the fact is, neither of the two can profitably exist without the aid of the other, and the question becomes then narrowed to that of the proportions in which each should stand to the other. This point, however, has already been discussed as far as the limits of these pages permit, and it may be further only necessary to add, that the produce of timber in the United Kingdom is very far from being sufficient to meet the demand for it. From a report of a select committee of the House of Lords, relative to the timber trade, made in 1820, it appears that the average quantity of foreign timber and deals imported into Great Britain during the four preceding years, amounted to 322,069 loads; the duty alone on which, in the last year of that average, 1819, amounted to 1,019,311*l.* 18*s.* 1*d.* The statements of extraordinary profits from woodlands must be considered rather of a local than of a general interest; that of Lord Barham's chestnut plantation in Kent, which at nine years growth afforded a produce for hop-poles, which sold for 104*l.* per acre; a plantation of larch, for the same purpose, but on a soil not worth more than 6*s.* to 7*s.* per acre, for cultivation, produced at the rate of 91*l.* per acre. Of the willow, oak, &c. numerous instances of the like great profits might be added.

As a general estimate of the profits arising from forest-planting may not be uninteresting, the opinions of three professional planters of considerable experience on the subject are here mentioned.

Mr. Pontey of Huddersfield, the author of several esteemed treatises on planting, states, that from careful calculations of what might be reasonably expected from an acre of land suitable in itself, tolerably favourably situated, and in every respect well managed as a plantation of larch, the result is, a net profit—after paying for the rent of the land and every ordinary expense—of much nearer five than four hundred pounds in forty-two years.

Mr. Monteath, the well known author of the *Plan-*

ter's Guide, estimates the entire cost of planting, after the establishment of a nursery, at 22*s.* to 30*s.* per acre, with that of enclosing in large clusters, at about 10*s.* The periodical returns from an acre of larch only, after payment of the expenses of cutting, he calculates at from 5*l.* to 7*l.* at the expiration of the first ten years;

at least £25 ditto second ditto
£300 at forty years growth.

And assuming the average rent and annual charges on an acre of light sand adapted to the growth of larch to be 12*s.*, the amount of profit and loss will stand as follows:

	£ s. d.
Enclosing and planting	2 0 0
Compound interest at five per cent, during ten years	1 12 6
Charges at 12 <i>s.</i> per annum, with compound interest at five per cent. for ten years	7 11 0
Deduct the medium value of the first thinnings; i. e. 5 to 7	6 0 0
Balance	5 3 6
Compound interest, at five per cent. on balance for ten years	3 4 6
Annual charges, with compound interest during ditto	7 11 0
	15 19 0
Value of thinnings at twenty years growth	25 0 0
Profit per acre	9 1 0

Thus, according to this estimate, doubling the capital, with compound interest, in twenty years, besides leaving timber standing on the ground, which in twenty years more, is calculated to be worth 300*l.*

Mr. George Sinclair, F. L. S., calculates, that the thinnings on an acre of land, of the value of from 5*s.* to 10*s.* per acre, planted with a mixed proportion of larch, beech, pines, hazel, birch, and oak—the latter with a view to the growth of navy timber, will, at the end of ten or fifteen years, according to local circumstances, repay the average expense of planting, rent, and management during that period, together with compound interest at five per cent.; and he estimates the clear profits of the future falls as follows:

In thirteen years, or at twenty-three years growth	£24 10 0 per acre
In thirteen years, or at thirty-six years growth	£39 0 0 do.

And after that period a triennial profit of about 12*l.* per acre, until the oak left standing may be supposed fit for the naval yards, and worth at the present prices, 24*l.*, which leaves a balance superior in the proportion of 300 to 7 to the fee simple of the land. But let it be remembered, that these calculations are all founded on the supposition of judicious planting and subsequent culture.

M. Chaptal estimates the forests or woodlands of France to occupy about sixteen millions nine hundred and four thousand acres, or about one-seventh of the whole productive land of that kingdom. According to M. Herbin de Halle, there are of forest lands belonging to

	Acres.
The State	2,802,652
Crown	164,565
Princes of the Royal Family	479,348
Public Bodies	4,834,284
Private Individuals	8,629,555

The produce is estimated at five millions three hundred and forty-seven thousand pounds sterling, or about from six shillings and fourpence to seven shillings and fourpence per acre. Compared to this of

woodland, the production of arable land is estimated at ten shillings, and grass land is placed on a level with that under the vine, viz. thirty-three shillings and eightpence an acre.

The royal forests of Britain occupy about 125,000 acres of land; but of these the greater portion are subject to claims of various sorts for common of pasture, turbary, &c. There are 32,768 acres of forest land enclosed and planted principally with oak, and with other trees where the soil is not adapted to oak. Of these 13,700 acres may be laid open when the trees are past danger of deer or cattle; and an equal number of acres to those thus laid open, may be enclosed and planted. The remaining 14,068 acres belong to the crown in fee, and will always be kept enclosed. There are 6211 acres of other freehold land belonging to the crown, which are also appropriated to the growth of timber, making in all 38,979 acres, the whole of which have been enclosed and planted within the last twenty years. In New and Dean forest, Hainault forest, Whittlewood forest, and Wychwood forest, there are open woods or coppices of considerable extent, containing trees of all descriptions, from ship timber down to saplings; but the number of acres so covered, or the number of trees occupying the surface, appear to be unknown.

The soil of the royal forests of Britain contain almost every variety of soil,—deep strong clay, rich deep loam, light loam on freestone gravel, bog, &c. The quantities of these different soils should be estimated. It is quite true that a field of ten acres may contain two or three different varieties of soil; but that is no substantial reason for not classifying the quantities on which to found a practical plan of management, so as to obtain the largest and speediest return of produce of the best quality, and that every portion of the land be occupied to the best advantage. Without an estimate of the spaces of the different soils, no accurate calculation can possibly be made of the produce the lands in question ought to and would afford under the most judicious culture; and consequently there is no check whatever to the practical management, but that of vague opinion.

As the most judicious, because the most profitable and certain in the result of obtaining the largest quantity of timber of the best quality in the shortest space of time, on a given space of land, the preparation of the soil for the reception of the plants by paring and burning the surface, afterwards trenching, and manuring when possible, and taking from the soil thus prepared an ameliorating fallow crop the season before planting, has been urged before, as a general principle of culture for the soils of the nature specified. But if this mode of culture be therefore so superior as it is proved to be for planting lands under ordinary freehold tenure, how much more beneficial, or rather essential, must the adoption of it be in cases such as of those belonging to the crown, where the rights of common render it imperative to open the fences of the young plantations to stock or to sheep and deer in seven or nine years from the period of planting. The trees so cultivated will in that period be comparatively out of danger, and the ultimate object, that of timber of the best quality the soil is capable of rearing, secured. But besides these advantages, that of affording profitable employment to labourers out of work, in the parishes adjoining the lands in question, and at a season of the year when labour is most scarce, cannot but add powerfully to the reasons, sufficient of themselves, already offered on this head; besides the valuable example for imitation by the public which the government would, in this important branch of rural economy, afford, and by it encourage those who may possess waste or unproductive land to plant it, for a present benefit to the unemployed labourer, and as an accumulating capital for the younger branches of his family and posterity, as well as for the general good of his country.

(To be continued.)

HORTICULTURE.

(From Bridgeman's Young Gardener's Assistant.)

CULTURE OF MUSHROOMS.

MUSHROOM. *Champignon comestible. Agaricus campestris.*

The *Agaricus* is said to be the most extensive genus in the vegetable kingdom. The species are determined upon various principles. As some of the kinds are poisonous, it is necessary to describe the eatable Mushroom. London says, it is most readily distinguished when of a middle size, by its fine pink or flesh-coloured gills, and pleasant smell. In a more advanced stage, the gills become of a chocolate colour, and it is then more apt to be confounded with other kinds of a dubious quality; but that species which most nearly resembles it, is slimy to the touch, and destitute of the fine odour, having rather a disagreeable smell. Again: the noxious kind grows in woods, or on the skirts of woods, while the true mushroom springs up chiefly in open pastures, and should be gathered only in such places. Unwholesome fungi will sometimes spring up on artificial beds in gardens; thus, when the spawn begins to run, a spurious breed are often found to precede a crop of genuine mushrooms. The baneful quality of the toad-stool, *agaricus virosus*, is, in general, indicated by a sickly nauseous smell, though some hurtful sorts are so far without any thing disagreeable in the smell, as to make any criterion, drawn from that alone, very unsafe. The wholesome kinds, however, invariably emit a grateful rich scent. The *agaricus campestris* is most generally cultivated. Dr. Withering mentions other eatable varieties, which run considerably larger, but which are inferior in flavour; he says, "that a plant of the variety Georgia, was gathered in an old hot bed at Birmingham, which weighed fourteen pounds, and Mr Strakhouse found one fifty-four inches in circumference, having a stem as thick as a man's wrist." Mushrooms may be obtained at any season of the year, by a proper regulation of the time and manner of forming the beds. A good crop is sometimes collected without making a bed on purpose, by introducing lumps of spawn into the top mould in old hot beds.

The method of procuring and propagating spawn and of forming Mushroom beds are numerous. Indigeneous spawn may be collected in pasture lands in September and October, or it may be found in its strength and purity in the paths of mills worked by horses, or in any other horse-walks under shelter; it is frequently to be found in old hot beds and dung-hills, in the summer season, and mushrooms of good quality may often be seen beginning to form themselves on the surface, like large peas; when these are observed, it is time to take out the spawn, which is generally in hard dry lumps of dung, the spawn having the appearance of whitish coarse pieces of thread. The true sort has exactly the smell of a Mushroom. If spawn thus collected be required for immediate use, it may be planted in the beds at once, or it will keep three or four years, if laid to dry with the earth adhering to it, and afterwards placed in a warm dry shed, where there is a current of air; but if it be not completely dried, the spawn will exhaust itself or perish, as it will not bear the extremes of heat, cold, or moisture.

Such of my readers as may have hitherto been unacquainted with the cultivation of the Mushroom, must perceive, from the preceding remarks, that a Mushroom bed is simply a heap of animal dung and earth, so tempered as to be capable of producing and preserving spawn; but in order to have fruitful spawn at all times, it should be so formed as to be always at command. To this end, a quantity of fresh horse droppings mixed with short litter, should be collected; add to this one third of cow dung, and a small portion of earth, to cement it together, mash the whole into a thin compost, like grafting clay; then form it in the

shape of bricks, which being done, set them on edge, and frequently turn them until half dry; then with a dibble make one or two holes in each brick, and insert in each hole a piece of spawn the size of an egg; the bricks should then be laid where they can dry gradually. When dry, lay dry horse dung on a level floor, six or eight inches thick; on this, pile the bricks the spawn side uppermost. When the pile is snugly formed, cover it with a small portion of warm fresh horse-dung, sufficient in quantity to diffuse a gentle glow throughout the whole. When the spawn has spread itself through every part of the bricks, the process is ended, and they may be laid up in any dry place for use. Mushroom spawn, made according to this receipt, will preserve its vegetable powers for many years, if well dried before it is laid up; if moist, it will grow, and soon exhaust itself.

Mushroom beds are often formed in ridges in the open air, covered with litter and mats, so as to prevent heavy rains exciting a fermentation; and sometimes in ridges of the same sort under cover, as in the open sheds of hot houses. They are also made in close sheds behind hot houses, or in houses built on purpose, called Mushroom houses. A moderately warm light cellar is peculiarly suited for the purpose in the winter season, as no fire is necessary, and but little water, the application of which so frequently proves injurious, when not judiciously managed. Mushrooms may be also raised in pots, boxes, hampers, &c., placed in warm situations; in old hot beds, in pits with glass frames, and in dark frames or pits.

The general way of making Mushroom beds, is to prepare a body of stable dung, moderately fermented, to the thickness of about a yard, more or less, according to the size and situation in which the bed is to be formed; when the strong heat has subsided, an inch of good mould may be laid over, and the spawn planted therein in rows five or six inches apart; after this is done, another layer of mould, an inch thick, may be applied, and then a coat of straw. Beds well constructed will produce Mushrooms in five or six weeks, and will continue to produce for several months, if care be taken, in gathering, not to destroy the young ones. As Mushrooms are gathered, from time to time, the straw should be spread carefully over the bed.

Beds made in a convenient place where there is space all around, may be formed so as to make four sloping surfaces, similar to the roof of a house; this by being spawned on the four sides will yield abundantly. The celebrated Mr. Nicol makes his beds without spawn. The following are his directions, taken from London's Encyclopedia of gardening.

"After having laid a floor of ashes, stone chips, gravel, or brick bats, so as to keep the bed quite dry, and free from under damp, lay a course of horse-droppings six inches thick. These should be new from the stables and must not be broken, and the drier the better. They may be collected every day until the whole floor or sole be covered to the above thickness; but they must not be allowed to ferment or heat. In the whole process of making up, the bed should be as much exposed to the air as possible; and it should be carefully defended from wet, it out of doors. When this course is quite dry, and judged to be past a state of fermentation, cover it the thickness of two inches with light dry earth; if sandy, so much the better. It is immaterial whether it be rich or not: the only use of earth here being for the spawn to run and mass in. Now lay another course of droppings, and earth them over as above, when past a state of fermentation: then a third course, which in like manner earth over. This finishes the bed, which will be a very strong and productive one if properly managed afterwards. Observe that in forming the bed it should be a little rounded, in order that the centre may not be more wet or moist than the sides. This may be done in forming the sole or floor at first, and the bed would then be of equal strength in all parts. If it be made up against a wall in a cellar, stable, or shed, it may

have a slope of a few inches from the back to the front, less or more, according to its breadth. I have sometimes been contented with two courses as above, instead of three; and often when materials were scarce, have made them up slighter, thus: three four inch courses of droppings with one inch of earth between each, and a two inch covering at top. Such a bed as this I have had produce for ten or twelve months together; but very much depends on the state of the materials, and on the care taken in making it up; also on the after management. The droppings of hard-fed horses only are useful. Those of horses kept on green food will of themselves produce few or no Mushrooms. I have made up beds from farm horses, fed partly on hard and partly on green food, and from carriage or saddle horses, fed entirely on corn and hay; treated them in the same way in every respect; and have found not once, but always, those made from the latter most productive. Droppings from hard fed horses may be procured at the public stables in towns, or at inns in the country, any time of the year; and if the supply be plentiful, a bed of considerable dimensions may be made and finished within five or six weeks. In as many more weeks, if in a stable or dry cellar, or a flooded shed, it will begin to produce, and often sooner; but if the situation of the bed be cold, it will sometimes be two or three months in producing Mushrooms."

It may be necessary to state further, that extremes of heat, cold, drought and moisture, should be avoided in the cultivation of Mushrooms. If the temperature keeps up to 50° in the winter, beds will be safe, and the heat in the beds may rise to 60 or even 70° without injury. Air also must be admitted in proportion to the heat, and 60° should be aimed at as a medium temperature. Water given a little at a time, is better than too much at once after the spawn has begun to spread; and the water for this purpose should always be made blood warm. A light covering of straw may be always used to preserve moisture on the surface; and if the beds be made in open frames, or otherwise subject to exposure, the straw may be laid thicker than on beds made in a cellar. Should beds fail in producing Mushrooms, after having been kept over hot or wet, it may be inferred that the spawn is injured or destroyed; but if on the contrary a bed that has been kept moderately warm and dry, should happen to be unproductive, such bed may be well replenished with warm water, and a coat of warm dung may be laid over the whole; if this does not enliven the bed after having lain a month, take off the earth, and if on examination there is no appearance of spawn, the whole may be destroyed, but if on the contrary the bed should contain spawn, it may be renovated by covering it again, especially if any small tubercles be discernable, but if the heat should have declined, the spawn may be taken out and used in a fresh bed. If beds be formed in hot bed frames, under glass, some mats or straw must be laid over the glass to break off the intense heat of the sun.

Although only one species of edible fungi has yet been introduced to the garden, there are several eatable kinds. In Poland and Russia there are above thirty sorts in common use among the peasantry. They are gathered at different stages of their growth, and used in various ways; raw, boiled, stewed, roasted, and being hung up and dried in their stores and chimneys, form a part of their winter stock of provisions. Great caution is necessary in selecting any species of this tribe for food, and none but the Botanist should search for any but the sort we have described. Physicians say, that all the edible species should be thoroughly masticated before taken into the stomach, as this greatly lessens the effects of poisons. When accidents of the sort happen, vomiting should be immediately excited, and then the vegetable acids should be given, either vinegar, lemon juice, or that of apples; after which, give ether and antispasmodic remedies, to stop the excessive bilious vomiting. In-

fusions of gallnut, oak bark, and Peruvian bark are recommended as capable of neutralizing the poisonous principle of Mushrooms. It is, however, the safest way not to eat any but the well known kinds, until they have been soaked in vinegar. Spirits of wine and vinegar are calculated to extract some part of their poison.

(From the Genesee Farmer.)

HOT-BED.

Mr. GOODSELL.—Most of our books direct these beds to be made from three to four feet high, to be composed of recent stable dung, of tanner's bark or oak leaves, with frequent linings to keep up the heat, and to impregnate the blossoms by hand, &c. &c.

All this may be proper and necessary where it is the intention to force fruits or vegetables to perfection during the winter months, but is attended with more expense and trouble than our gardeners and farmers are willing to bestow on the subject.

A hot bed, however, may be made eminently useful in bringing forward many vegetables at a season much earlier than can be done in the open air, and when used as a seed bed only, are attended with comparatively little expense or trouble.

I am therefore induced to send you a few directions for preparing and managing such a bed.

About the 20th of March get into your garden of recent stable manure a sufficient quantity to form the hot-bed; select a spot for your bed open to the sun, set four sticks twenty inches above ground, four feet three inches each way in a square form. Begin to lay on the dung with a fork on the top of the ground, being careful to shake and mix it well as it is put on, till the bed is raised to the top of the sticks, occasionally beating it with the back of the fork, so as to make it as level and smooth as possible. When this is done put on the frame immediately, and cover it with the sash in about two days the heat will come on, and the bed will have settled to about sixteen or eighteen inches, when the sash should be removed, and the dung made as level as possible within the frame, and about three inches of good garden mold or rich earth from grass ground laid over the dung within the frame, and the sash put on again; let it remain about two days more to warm the earth.

If the heat is too great it should be let off before sowing any seed; this may be done by removing the sash on the back side about an inch, by means of a wooden wedge made as follows: Take a piece of wood about three inches square, cut it to an edge at one end like a wedge, by introducing which at the back side of the frame, the sash may be at any time raised from half an inch to three inches to let off the hot steam or to admit fresh air. When the temperature within the frame is between seventy and ninety degrees, the earth should be smoothed and the seed sown. Such as Battersea and early York cabbage, cucumbers and melons, cayenne pepper, lettuce, or any other plant that you may wish to cultivate for early use or curiosity.

In the choice of cucumber and melon seeds, I should always prefer those of three or four years' old, as they are much less liable to run to vine, and produce fruit much earlier than recent seed. All those plants may be removed into the open air about the first of May, being careful to select a moist time to transplant them. After the plants come up in the frame, they will frequently want fresh air, and for this purpose the sash ought to be raised an inch or two at the back side every clear sunny day, from the hour of ten A. M. to three P. M., being careful to shut it down, at night, and in the day time during cold or wet weather. They will also want water about once a week; the water should be kept in the frame from twelve to twenty-four hours before it is used, and then applied moderately about once a week.

The frame for the seed bed should be about four

feet square, six inches in front and twelve on the back side, tapering towards the front. The sash should be made to fit tight on the frame, and the outside pieces about three inches wide, the slats about an inch and a half wide, and set at such distance as to admit seven by nine glass, to be laid in a groove on each side loping about half an inch at the lower end like shingles on a roof; this sash should be primed like window sash before the glass is put in, and should have no cross pieces, as it would tend to obstruct and collect the water on the sash. A frame for the cultivation of sweet potatoes should be deeper, say ten inches in front and about fourteen on the back. These should never be planted in the same frame with other plants, as the vines will soon run so as to fill the frame, and smother every other plant in it. Yours, &c. R. M. WILLIAMS.

Middlesex, Feb. 25th, 1832.

(From the New England Farmer.)

SQUASHES.

Andover, Ms. Feb. 20, 1832.

To raise winter squashes, the following method is recommended:—Select a rich piece of ground, rather moist, not much exposed to the wind and free from shade. At the proper season, plough it well three times; dig holes in the earth about eight feet distant, sufficiently large to contain more than one bushel; put into each, a shovel three times full of strong manure and one pint of dry ashes or slacked lime. The compost taken from the hoggard or slaughterhouse cellar, is preferable. Cover this composition slightly with dirt; after a few days, take a hoe, chop it over, and mix with it a sufficient quantity of earth to fill the holes nearly. Let this exercise be repeated two or three times in the course of ten, twelve, or fourteen days, as the weather may be; and plant the seeds taken from large ripe squashes. The plants will soon spring up, and then the enemy will appear in great armies—I mean, small striped and large black bugs; any thing that is offensive to the olfactory nerves of a human being, will retard their operations, but the only sovereign remedy is to take life. The plants, therefore, should be critically examined at least twice each day, and the bugs destroyed. Hoe them frequently, make the top of the ground in the form of a concave lens, and leave only three or four thrifty plants in each hill. The squash, like other vines, especially of the genus *cucurbita*, receives much of its nutriment directly from the rain, the air, and the dew; of course the leaves should be sustained in their natural position. To effect this object, place brush between the hills in every direction, just before the vines begin to spread; and, with the blessing of heaven, a large crop may be expected.

I am aware that this method of raising squashes requires much labour and persevering attention; but the cultivator will be amply compensated. Last season I planted one hundred hills, and raised between 4,000 and 5,000 pounds, which, at the rate they are usually sold, would amount to more than sixty dollars. My yard was about eighty feet square

OBSERVER.

Why should water-creases be carefully picked in washing?

Because a dangerous plant grows mixed with them in springs and streams, which, when not in flower, much resembles the cresses. Water-creases are, however, of a deeper green, and sometimes spotted with brown, the extremities of the leaves are more brown, and especially the last leaves, which are undulated at their edges. The dangerous plant (water-parsnip) is of a uniform green, the ends of its leaves are longer and narrower, conical at the extremities, and toothed at the edges. If examined in July, when the flowers are expanded, the two plants may be thoroughly distinguished.

RURAL ECONOMY.

SECOND PRIZE ESSAY, RURAL ECONOMY.

By N. HERBEMONT, OF COLUMBIA, S. C.

"HONESTY IS THE BEST POLICY."

Happiness is the object of pursuit with all men, from the greatest potentate to the humblest shepherd; and indeed, I might say, with all animated creation. This being, then, the supreme object of all our endeavours, it becomes rational creatures to seek it by the surest and most direct road that can be found. This road has long been known to exist solely in honesty; hence my choice of the old apothegm selected as the epigraph to this piece. I apply it designedly, in addressing cultivators of the soil; not because they are more in need of the admonition it conveys; on the contrary, it is because they are less exposed to offend against it than most other classes of men, and that, if we expect to reap a rich harvest, we must sow the seed in a soil well prepared and suited to its growth.

I understand the word honesty to include almost all the other virtues, such as truth, justice, prudence, industry, economy, love to our fellow men, and I think I may include a due regard for the brute creation, and even for the vegetable world. Gratitude to the benevolent author of all, makes it a duty in us to hold in high estimation all his valuable gifts, which must necessarily prompt us to cultivate and improve them according to our utmost abilities and the lights of reason, given to us for no other purpose than to serve as our guide in our search for happiness. Although this is addressed to the cultivators of the soil particularly, it is by no means intended to deprive any other class of mankind of the benefits which may, perchance, be derived from its attentive perusal. Would to God that all men, and most particularly politicians and statesmen had this maxim always before their eyes, and as it were deeply engraved in their minds! What glory would accrue to any government, that of the United States for instance; what power would it not possess! How honored by all the world, if it were entirely and exclusively governed by the purest means of honesty and truth! How glorious it would be for any government to have absolutely discarded from their diplomacy and intercourse with the world, at home and abroad, stratagem, intrigue, falsehood, rapacity and injustice; and be solely guided by the strictest principles of probity, truth, plain dealing and common sense! But I am forgetting that this is intended as an essay on improvements in agriculture.

It is conceived impracticable in a paper like this, to descend to particulars; for it would require many folio volumes to do justice to the subject. I shall attempt, then, nothing but general views, and throw out only hints on the various departments of agriculture. Every one can glean materials enough for his various operations, in books and other publications on rural concerns, and also from the dictates of plain reason, discarding, as much as possible, the prejudices of education, or rather of the want of it, and all practices founded on routine, inconsistent with plain sense.

A man ought to be very cautious in the selection of a spot on which he contemplates carrying on his agricultural operations, and on which he intends fixing his permanent residence. No man in his senses will hesitate in giving the preference, *ceteris paribus*, to rich and fertile land over that which is poor, and requires heavy expenses to render it even only moderately fertile. Fertility of soil, however, is not the only desirable thing for the cultivator. His land must possess many other requisites to render it fully worthy of his choice. It must be convenient to a market; for, of what use is abundance, be it ever so great, if it cannot be enjoyed and disposed of to advantage? The site ought to be pleasant, and most particularly it must be healthy. A man who without unavoidable necessity, resides on a sickly place, is deficient of honesty towards himself and his dependents, however he may be otherwise towards

others. Without health there is no happiness, particularly when sickness is the effect of our imprudence, covetousness or of any other unworthy motives. Fertility of soil is not, however, an inexhaustible property, and indolence or bad management will in a few years destroy that most desirable quality of land, and reduce it to the rank of that which is naturally sterile. The husbandman must, therefore, deal honestly with his land as well as with himself and neighbours. Always to take from it, and never to return to it any thing, by which its fertility may be not only kept up, but also augmented, is most undoubtedly unjust, illiberal, ruinous, and therefore, unworthy of an honest man. That fertility in land may be kept up and increased is undoubtedly true; for we occasionally see it on the farms of sensible and industrious men; but that it can be done, is proven beyond the possibility of a doubt, by the increased fruitfulness of gardens and all the fields in Europe and elsewhere, some of which must have been in a state of cultivation, perhaps 2000 years or more. The unavoidable exhaustion of land by continued cultivation is, therefore, an absurdity the more easily detected that we have every day before our eyes indisputable proofs of it. The field of the slothful or of the ignorant man is alone subject to a progressive deterioration always proportioned to his want of industry, or the extent of his ignorance. It cannot be denied that what is done on a small scale, such as a garden usually is, can be done by the same and proportionable means on any extent of ground. We find those means to be principally two:—1st. The application of manures, and the other the stirring of the soil often and to a proper depth, to which may be added as a powerful auxiliary, a judicious rotation of crops. Such being the means found successful, and no other ever having been found from which such permanent benefits have been derived as from these, they must be the objects of our utmost exertions. To obtain the best quality and the greatest quantity of manure, ought then to be the object of our utmost care and solicitude. Manures are of various kinds, and although generally advantageous in all kinds of land, they are not all, by any means, every where equally suitable. Vegetable matter in a decomposing state, for example, although the very best of manures, is not applicable to such soils as are already over abundant in, or are chiefly composed of the same materials, such as the black soils of swamps, marshes and some bottom lands. Some of these would be more benefited by a plentiful application of burnt clay, lime, dry and gravelly soil or even pure sand or clay, as the one or the other is deficient in either.

Manures, or substances for the improvement of land, are derived from the three kingdoms in nature, viz: the vegetable, the animal and the mineral. To know where each or either of them is most suitable for the purposes of the farmer, in each particular case, requires, however, some knowledge which we do not possess intuitively. God has created all the animated world with various degrees of sagacity. The brutes have been endowed with an unerring guide called instinct, with little or no power of improving or changing their habits or practices; but which suffices for all their purposes. Man alone was endowed with reason, which is an improvable faculty, and which can only supply the place of instinct, when it is cultivated and exerted. But different from that faculty in the brutes, no limits have yet been found to the extent of its improvement. Reason unimproved, therefore, may be inferior to instinct, as it is liable to erroneous impressions and may lead its possessor to error as often as to truth. This shows the necessity of education and instruction, in agriculture as well as in any other business of life, and without them, man is left to grope in the dark, and exposed to apply injurious substances where he aims at beneficial results. This appears to me a sufficient answer to the few remaining cultivators of the soil who still object to all kinds of "book learning" in agriculture; and clearly

shows, not merely the propriety, but even the necessity of establishing schools of agriculture where the principles by which it ought to be regulated, may be taught scientifically, as well as practically; and that without such institutions, unless the same object may be effected by other means equally effectual, the knowledge and practice of agriculture must always remain a most imperfect and inefficient object; whereas it ought to be the most powerful and efficient in any country, and particularly in a country essentially agricultural, as the United States most undoubtedly are. This part of the subject being of the utmost importance to those states that are exclusively agricultural, I must beg to be permitted to illustrate it further by a familiar simile: what should we think of a mechanic, say a carpenter, who was under some necessity to continue the practice of this particular trade, who, instead of serving an apprenticeship to a good and skillful carpenter, or otherwise learn the principles and best practice of his art, should devote his sole attention and studies to the acquiring knowledge in any and every other art, science or learning, such as weaving, spinning, smithery, horology, latin, greek, botany, chemistry, &c. &c., knowledge by no means useless, even to him; but not directly applicable to the profession which, from the circumstances in which he is placed, and in the prosecution of which he ought to acquire skill, and aim at perfection? And yet such is too truly the real state of things with our agricultural communities. If our various legislations ever bear at all upon agriculture, it is to oppress and degrade it; and the most anomalous and almost incredible fact is, that the very agricultural population of the country has an overwhelming majority of votes in the councils of the states, either singly or collectively, by which such laws are enacted! This fact which is staring with the most malicious sneer in every man's face, shows that we farmers act as *wisely* as the carpenter of my simile. Rouse yourselves, you cultivators of the soil, know that you are the strength of the world, and enable yourselves by a due degree of education and knowledge, to deserve, and really to stand firmly on the proud eminence which is your birthright! Be honest to yourselves; for true honesty, like true charity, begins at home.

I will venture to assert positively, as my opinion, on the correctness of which I would risk my reputation of having common plain sense and honesty of purpose, that if these United States, or any individual State of them, were to adopt the most efficient means in their power to promote the most extended knowledge of agriculture, and the establishment of practices founded upon it; were it even to the entire neglect of three-fourths of their yearly encumbrances, that such a state or states would soon arrive to as high a degree of prosperity, wealth, virtue and happiness, as can well be expected ever to be the lot of man on earth. I can scarcely permit myself to listen to the maxim, "let us alone," which is not applicable in this, or in any other case, until man has acquired competent knowledge as the means of discrimination. Instruct man in the profession he is to follow as his occupation through life, and when that is fully, truly, and honestly done, leave him at full liberty to act according to the dictates of his judgment and feelings. Then indeed, "let him alone." It seems to me that we mistake completely the objects, or what ought to be truly the aims of governments. The principle of these ought most certainly to be, to lead man gradually; but by a sure and direct road to the attainment of all that is truly desirable, and that is knowledge, which will conduct him safely to honesty and all the virtues of a patriotic citizen.

It cannot be expected that in a limited essay as this must necessarily be, rules can be given for the improvement of all sorts of soils, under all sorts of circumstances. I shall therefore sum up this part of the subject, by recommending to the proprietor and cultivator of any land, rich or poor, to manure it, if possible, from the very first of its being brought to cultiva-

tion, by every means in his power, and according to the best knowledge he may possess, or collect from his neighbours; and also to plough, or otherwise stir up his soil, not by mere scratching, but as deeply as the nature of his land will admit, being assured that, generally speaking, there is more danger in ploughing too shallow than too deep. I cannot, however, enter into the particular cases where it may be otherwise.

To him who is compelled, by circumstances that are not within his control, to cultivate land that is naturally poor, I must express my assurance of fellow feelings for his unfortunate situation; but yet it is not desperate, and, if he possess knowledge, he ought to labour to bring his barren soil to a state of fertility. The free use of the plough, of draining where it is wanted, the frequently sacrificing a green crop to the improvement of his land by ploughing it under, the free use of lime and gypsum, where these can be obtained at no exorbitant rates, the adding sand to clay soils, and clay to sandy soils, and incorporating them well by repeated ploughings and harrowings, are the most obvious means by which he is likely to be rewarded with success. In either case, however, the cultivator must adapt the objects of his culture to the nature and capacity of his land. It is vain to expect ever to obtain a good crop of a certain article which the land, from its constituent principles, is not suited to produce. This part of the subject requires experience and sagacity, as well as practical honesty; for the steward ought not to be made to account for more than is given to him in charge.

It would be worse than idle in any man to attempt any thing without first providing himself with the means and the instruments most suitable to effect his purpose. A farmer, therefore, must have cattle, horses, mules or oxen for the service of his farm. Let him keep in mind, that there is no economy in having cheap animals, by which is generally understood worthless ones. The cheapest article is not that for which the least money is paid; but that which when obtained, can most fully answer the purpose for which it was purchased. In the use of these our humblest dependents, we must keep in mind our motto. These most useful auxiliaries to all our labours ought to be treated with gentleness, and I was going to say with liberality; but, no, I must say, with justice. Since we deprive them of their liberty, and force them to exert their strength in our service, it is but common honesty towards them that we feed them well, and in every respect do every thing for them that may tend, not merely to their health; but also to their comforts and well being. In this it is most evident that "honesty is the best policy." The man that ill uses and starves the poor slave that toils for him, is unworthy his station among men; he is below his victim.

What has been said in relation to the labouring cattle on a farm, is equally applicable to the cares necessary, first in procuring all the implements and instruments of agriculture, and in the due care taken of them, except that as these are not endowed with feelings, we may be governed towards them simply with a view to our interest. The best and most effective instruments ought to be obtained, the cost of them is only a secondary object, for it frequently happens that the difference in price between an indifferent instrument, a plough for instance, and that given for a highly improved one, is more than fully made up by the superiority of its effects, and also the price it costs is an additional inducement for the farmer to take due care of it, which, however, he ought to do at any rate, and in regard to all the implements he has to use. I would say to a farmer, or any other man: if you use only a simple stick, deal honestly with it; do not impose on it a greater burden than it can bear, and when you have done with it for the present, put it away in a safe and secure place where it may not be exposed to the rain and the sun, and it will reward you, by the duration of its services, for the trifling cares you have bestowed up-

on it. Even by this trifle, then, the truth of my epigraph is proven.

When you walk through a farm and see the wagons, carts, ploughs, harrows, hoes, spades, axes, &c. &c., lying about any where and every where but under a suitable cover, you need not go into the dwelling house and barns of the farmer, to ascertain the extent of the abundance and comforts he enjoys. What you have seen is enough.

I have then, Mr. Editor, as briefly as I could, endeavoured to make out the truth of the old adage I have chosen for the epigraph to this imperfect attempt at writing an essay on agricultural improvements. I am fully aware that it contains nothing but hints, and these probably very inadequately expressed; but, sir, I most certainly think that some of them deserve the most serious consideration of all that truly and honestly love their country. If it be found that in these particulars my views are just; then a great revolution in our rural affairs is reuinted, and the exertions of all honest men; and particularly of the cultivators of the soil must be put in requisition to effect it. The talents of the country are claimed by the necessity of using all due efforts to attain so great an object. The best exhibition of patriotism must be that which has for its object the greatest good of the country, the honesty and consequent happiness of its inhabitants.

DISEASES IN HORSES.

MR. SMITH:

March 17, 1832.

Dear Sir,—As you thought proper to publish the communication submitted to you a short time ago, I will now fulfil the promise then made to give some cases of diseases in horses, which numerous engagements have prevented my doing sooner.

In the year 1819 or '20, about the last of August, a distemper of a very violent character was discovered amongst my father's horses, which in a short time proved fatal to many of them. The following are the circumstances attending it as nearly as I recollect:—On Saturday evening they were taken from the ploughs in good health, and turned into the pasture. On Sunday afternoon a riding horse that had been kept in the stable, was saddled for a member of the family, but before riding him a quarter of a mile he discovered he was sick, and returned. The horse was instantly taken to the stable, and a drench ordered, but before it could be prepared he fell down and expired. The next morning the negroes went into the field to drive up the work horses and found two of them dead and several others sick. The idea immediately suggested itself either that they were poisoned, or there was a dreadful epidemic prevailing amongst them, and they were all brought into the lawn around the house, that they might receive prompt attention. Here too we had an opportunity of observing closely the character of the disorder, of which I was an attentive spectator.

The horses found sick in the pasture soon died, and others were taken at different intervals throughout the day, which but a moment before were, to all appearances, well. The first symptoms were an indisposition to eat, followed by high arterial action. This soon became very violent, so that the thumping of the arteries could be easily seen, and plainly heard by holding the ear near. In a few minutes more the poor creature would commence staggering, and after making every effort to sustain himself, would fall with great force. After lying a short time he would rise again, but only to repeat his fall with increased force. The third fall was generally fatal. I think I am safely within the truth when I say I saw several expire in twenty or thirty minutes after they were first attacked. All the cases, however, were not so rapid in their progress.

The importance of instant and free bloodletting did not occur to my father until he had lost seven or eight; he then resorted to it with success, and saved

all that were attacked afterwards, to the number of six or seven more. There was a thick coat of buff of a white colour formed immediately upon the blood, which proved high inflammatory action. The bleeding was seconded by cathartic balls and drenches. The blood was suffered to flow until there was evident relief, or the animal was about to faint. My impression is that the ears and lips became very cold immediately after the attack, and the tongue whitish; but of these I have not a distinct recollection. The disease was first thought to be the effect of poison, but the strictest enquiry could discover no evidence for such a belief. I do not recollect ever hearing or reading of a distemper of equal violence in man or beast but in one instance. That I saw related in some medical work, but have now forgotten the author.—The captain of a British man-of-war states that in approaching the shores of one of the Islands of the West Indies, a large number of his crew were suddenly seized with a disease that had the effect of overcoming them at once, and prostrated many upon the deck, threatening them with instant destruction. He ordered the surgeons to bleed them all as speedily as possible, and so many were the persons bled, that their arms could not be tied up as soon as it was necessary, and several of them, he supposed, lost upwards of an hundred ounces of blood and fainted repeatedly before the bleeding was stopped—they all recovered, I think is added to the account.

The disease that I have described above was called by some the yellow water, because after the blood had been standing some time a quantity of yellow serum was separated; but this would be the case in any disease. Others called it the staggers, from the staggering attending it. This also is a mere symptom; hence the uncertainty of the vulgar nomenclature. I have considered it a high grade of the common continued fever, which is epidemic in this climate at the season of the year when it occurred. The violence of the arterial action probably produced immediate congestion of the brain, which accounts for the staggering and sudden death.

I perfectly agree with Mr. C. Robinson, of Connecticut, whose communication to the New England Farmer was published in your 48th No., 13th Vol.; he says, "for almost every sudden attack of disease to which horses are liable, bleeding, if immediately effected, is a most excellent remedy, and the only one which in all cases can be at once employed." When an animal of a vigorous constitution, simple diet, and free exposure to the air is taken suddenly very ill, there must be inflammation present, or something that will very soon result in inflammation. In either case bleeding until relief is afforded, or to fainting, will be a safe and perhaps the only effectual remedy. If there should be coldness and shivering instead of fever, the necessity of bleeding is not the less urgent, as they are generally evidence of congestion, if not inflammation, which I consider more readily relieved in a vigorous constitution by that remedy than any other. I have known sudden cases of founder, in which the horse in a few minutes became so stiff he could scarcely walk, at the same time covered with a lather of sweat, immediately cured by bleeding. Colic produced by drinking cold water after unusual abstinence, is more safely treated by ordinary cathartic drenches and bleeding, than drenches of whiskey, which seem to be the favorite generally. So with other colics; the bleeding to be employed only when the drenching has failed.

Upon returning home about the 4th of June, 1830, after a week's absence, I found a blooded mare that had a colt at her side, very sick. She had been discovered lying down in the field three or four days before, and with some trouble was brought to the stable. The symptoms, when I saw her, were great difficulty of breathing, an entire inability to swallow, and great weakness and emaciation. She would eat and was tormented with a thirst which could not be gratified, as whatever she eat or drank returned through her

nostrils. She had been bled, but not sufficiently. Supposing the inability to swallow was caused by bots in the throat, I attempted to dislodge them with a long piece of grape vine, enlarged at one end by linen wrapped firmly around it. It was repeatedly thrust into her stomach without effect. The next day she died. On cutting her open it was discovered she had died with a severe pleurisy, and that there was a bunch of bots fastened at the top of the gullet; also several bunches adhering to the stomach in different places; but they had not cut through.

The last of May had been very cold and rainy. Mares and colts should never be suffered to remain out in such weather, particularly blooded mares that have been accustomed to the stable, as was the case in the above instance. This case may also suggest another caution—that is not to have the attention withdrawn from the principal disease by an accidental symptom. The difficulty of breathing taken in connection with the weather and other circumstances indicated the pleurisy which called for copious blood-letting. The collection of bots in the throat, I imagine was occasioned by a change in the quality and quantity of their accustomed food produced by the previous disease, which made them restless. I have often heard a skilful physician attribute a similar circumstance to the effect of disease in the human subject. If they could not have been dislodged, they alone would have been sufficient to destroy the animal; and I do not know how they could have been unless by a drench of milk and molasses forced past them by an instrument, or held in contact with them by keeping the mare's head raised. They could hardly have been reached with the hand.

A gentleman of veracity (a friend) told me he once had four horses whilst ploughing attacked with symptoms alike, and suspecting bots he attempted to drench them with milk and molasses; but succeeded with one only, which he saved. The rest died. On examination, he found the passage of the gullet obstructed by bots. I am disposed to think they would not wander in this manner out of the stomach, unless the sustenance they obtained there had become either scanty or of disagreeable quality, which might be produced by irregular or spare feeding—by disease—or by the irritation of the bots themselves. It will be seen that I suppose there is as much probability that they live upon the chyle, as upon the secretions of the stomach or the blood.

In January last, I lost a fine mare by an accident, which destroyed her in twelve hours. About half an hour after she died, she was skinned and then opened. The bots were adhering to the stomach but had not cut through.

I will also take this opportunity to add some things in regard to another matter debated in your paper. I have heard recently of a dog being driven from a sheep that he was eating whilst it was yet alive; and I well recollect four years ago, that one of my sheep was observed to be injured, and upon examination it was evident that a dog or some other animal had caught it, and eat a part of the flesh under the fore leg, and was probably prevented from doing further injury by the cattle. Snakes will swallow large frogs alive, and that by a very tedious process. The frogs will be found not dead if relieved several hours afterwards. Large fish swallow smaller ones without crushing or bruising them—and I saw several instances last fall of chickens being partly eaten by the Norway rat, and yet escaping with their lives.

I wish it to be understood that any thing like theory in the above communication is advanced with diffidence. My object has been to contribute my mite to your useful paper, and if it should in any degree tend to instruct or elicit truth, I shall be more than compensated. I congratulate you upon the success which has attended your efforts to attract the public interest to the Farmer, and remain,

Respectfully yours,

MIDDLE VIRGINIA.

Prices Current in New York, March 24.

Beeswax, yellow 18 a 20. Cotton, New Orleans 10 a .18; Upland, .8 a .11; Alabama, .8 a .11. Cotton Bagging, Hemp, yd. 14 1/2; Flax 13 a 14; Flax, American, 7 a 8. Flaxseed, 7 bush, clean —; rough —; Flour, N. York, bbl. 5.12 a 5.18; Canal, 5.75 a 6.00; Balt. Hwd-st. 5.37 a —; Rh'd. city mills — a —; country, 5.00 a —; Alexand'a, 5. — a 5.37; Fredericksburg — a 5.00; Peters — a 5.00; Rye Flour, 4.00 a 4.25; Indian Meal, per bbl. — a 3. —; per hhd. 14.00 a —; Grain, Wheat, North, 1.04 a —; Vir. 1.03 a 1.05; Rye, North, 77 a 80; Corn, Yel. Nor. 51 a —; Barley, 1.00 a —; Oats, Sth. and North, .36 a .42; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess 9.00 a 9.25; prime 5.25 a 5.75; cargo — a —; Lard, 8 1/2 a 9; Pork, mess, bbl. 13.00 a 13.50; prime 10.75 a —.

Now in Press, and will be published early in March,
THE AMERICAN FLOWER GARDEN
DIRECTORY,

By HIBBERT & BUIST, Exotic Cultivators, Philadelphia, containing. Copious Directions for the cultivation of Ornamental Flowers and Plants, with full instructions for their treatment, in every month of the year, in the various departments of the Hot-house, Green-house, Flower Garden, and Rooms; also a description of the Plants most desirable in each, the nature of the soil and situation best adapted to their growth, the proper season of transplanting, &c. &c.

In this work considerable attention has been paid to correctness, and the botanical names are all accented according to the most approved nomenclature.

The volume will contain about 350 pages in 8vo, with a copious Index, and a well finished lithographic (coloured) print of the *Camellia fimbriata*. Price \$2 00, with muslin backs.

7-7 The above work may be had as soon as published at the American Farmer Office and Seed Store.

BUFFALOE BERRY TREES.

A few more are engaged and will be received in a few days at the American Farmer Office and Seed Store. Price \$1 each.

SUGAR MAPLES.

A further supply of these beautiful trees received this day, and for sale at the American Farmer Office and Seed Store. Price 50 cents each, or \$7.50 for a bundle of 20 trees.

WHITE MULBERRY SEED.

Just received, direct from Europe, at the American Farmer Office and Seed Store, a supply of White Italian Mulberry Seed, warranted genuine and fresh, at 50 cents per ounce. Orders addressed to I. I. Hitchcock will be attended to without delay.

N. B. An ounce sent by mail will be charged with quadruple letter postage for the distance sent.

GOOSEBERRIES.

A few plants remain unsold of the "Red Captain" — one of the varieties (of which an extra number was sent us) of the Lancashire plants lately imported by us from England. The full sets of eight varieties are all sold. Of these we will sell three plants for \$1.

Apply at the American Farmer Office and Seed Store, Baltimore. March 16.

THORN QUICKS FOR HEDGING.

Just received at the American Farmer Office and Seed Store, from the extensive nursery of Joshua Peirce, near Washington, D. C. 10,000 Plants of the AMERICAN HEDGING THORN. They are put up in bundles of 200. Price \$5 per thousand.

LUCERNE AND WHITE MULBERRY SEED.

Just received from Europe a supply of Fresh Lucerne Seed of prime quality, which will be sold at market price; and also a quantity of White Italian Mulberry Seed fresh and of fine quality, at 50 cents per ounce. J. S. EASTMAN.

MORUS MULTICAULIS.

WILLIAM PRINCE & SONS, proprietors of the Linnean Botanical Garden and Nursery at Flushing near New York, have just received from Europe 350 plants of the Morus Multicaulis, or Chinese Mulberry, which they offer for sale, at from 75 cents to \$1 each, according to size.

Apply to them by mail, or to their agent, I. I. Hitchcock, at the American Farmer Office and Seed Store, Baltimore.

March 30.

11.

THE HORTICULTURAL GARDEN OF THE LATE ANDREW PARMENTIER, IS OFFERED FOR SALE.



The reputation of this establishment is not confined to the vicinity of New York, but is well known throughout the United States, and different parts of Europe. It is situated two miles from the city of New York, at Brook-Lynd, Long Island, at the junction of the Jamaica and Flatbush Roads, and contains 24 acres.

The Grounds are in a very high state of cultivation, and laid out with judgment and taste. The situation is very healthy, and the view very extensive, commanding the bay, the city, &c. The Garden is enclosed by a pointed stone fence, and inside of that is a Hawthorn hedge. The Nursery contains a fine and extensive collection of Fruit, Forest and Ornamental Trees; also, a splendid collection of Roses and Herbaceous Plants; the object of its late Proprietor having always been to collect every new variety.

On the premises are a Dwelling House, two Laborers Houses, seven Cisterns, and a never-failing Pump of excellent Water—four Green and Hot Houses, containing a rich variety of rare exotics.

The advantages to be derived by any person who wishes to engage in the occupation of Gardening, by the purchase of this property, are very great; the business already secured is very extensive, and the prospect of increased encouragement is such as to warrant the belief that the purchase of the property will amply repay the enterprise of any one who may engage in the business.

Terms will be made known by applying to Mrs. PARMENTIER, on the premises.

N. B. Mrs. P. will receive and execute all orders. Feb 10—61.

GARDEN AND FIELD SEEDS.

J. S. EASTMAN has in 120 bushels CLOVER, the most of which is prime, and 50 bushels of Cow PEAS, TIMOTHY, Tall Meadow Oat GRASS, and Herd SEEDS, and a small quantity of English Lawn Grass SEED. Also just arrived per brig Hyperion an additional supply of Fresh Garden SEEDS; among them are a variety of best Garden PEAS and BEANS. His assortment of Garden Seeds are probably equal to any in this city, and all fresh, and which he will sell on reasonable terms at wholesale and retail.

He would also inform his customers, that he has on hand a large supply of PLOUGHS and other Agricultural Implements, which he trusts will sustain the credit of his establishment. J. S. EASTMAN, Pratt street, near Hanover.

BANK OF MARYLAND,

Baltimore, Dec. 24th, 1891.

By a resolution of the Board of Directors of this Institution, the following scale and rates have been adopted for the government of the officers thereof in receiving deposits of money subject to interest, viz:

For deposits payable ninety days after demand, certificates shall be issued bearing interest at the rate per annum of 5 per ct.

For deposits payable thirty days after demand, certificates shall be issued bearing interest at the rate of 4 per ct.

On current accounts, or deposits subject to be checked for at the pleasure of the depositor, interest shall be allowed at the rate of 3 per ct.

By order,

R. WILSON, Cashier.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—The business in flour and grain remains dull and without improvement. Our quotations exhibit the current rates. Corn has improved a little. Beef and wood remain as before, the former dull at quotations.

TOBACCO.—Seconds, as in quality .3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 3.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a —.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 396 hhd. Md. 49 hds. Ohio; 7 hds. Virginia; and 4 hds. Kentucky—total 456 hds.

FLOUR.—best white wheat family, \$6.75 a 7.25; super Howard-st. 4.51 a 4.87 city mills, \$4.75 a 4.81 on time, a —; Susq. — a —; CORN MEAL bbl. 3.50; GRAIN, best red wheat .90 a 93; white do. 95 a 1.06, Susq. — a —; CORN, white, 42 a —; yellow 45 a —; RYE, 66 a 67 —; OATS, 36 a 37. —; BEANS, 75 a 80 —; PEAS, 65 a 70 —; CLOVER-SEED 6.00 a 6.50 —; TIMOTHY, 2.00 a 2.50 —; Oat GRASS 1.75 a 2.50 —; Tall Meadow Oat GRASS 2.00 a 2.50 —; Herd's, 75 a 87 —; Lucerne — a 37 1/2 lb. —; BARLEY, —; FLAXSEED 1.50 a 1.62 —; Cotton-Ya. 7 1/2 a 9 —; Lou. 9 a 12 —; Alab. S. a 10 —; Tenn. 7 1/2 a 9; N. Car. S. a 9 1/2 —; Upland S a 10 1/2 —; WHISKEY, hds. 15 p. 78; in bbls. 29 a 30 —; WOOL, Washed, Prime or Saxony Fleece 49 a 57; American Full Blood, 40 a 45; three quarters do. 36 a 40; half do. 34 a 36; quarter and common do. 30 a 34. Unwashed, Prime or Saxony Fleece, 30 a 34; American Full Blood, 26 a 28; three quarters do. 24 a 26; half do. 22 a 24; quarter and common, 18 a 22 —; Hemp, Russia, ton, \$25 a 230; Country, dew-retted 5 1/2 a 7. lb. water-rotted, 7 a 9c. —; Feathers, 35 a 38; Slater Paris, per ton, — a —; ground 1.50 a —; hbl. Iron, gray for foundries, per ton 85.00 a —; pig for forges, per ton, 28.00 a 30.00; bar Sth. per ton, 27.50 a 30.00.—Prime Beef on the hoof, 5.00 a 6.00.—Oak wood, 3.75 a 4.00.—Hickory, 4.50 a 5.00.

CONTENTS OF THIS NUMBER.

Editorial: Use of Hard Names in Botany; White Wash for Out Houses, Inquiry; Robbing Gardens; Silk; &c.—Planting, chapter vii; Of the Progressive Increase of Size or Produce of Wood of Different Species of Forest Trees; Of the Mode of Valuing Plantations, Present Value, Prospective Value of Certain Individual Trees which have Attained to Great Maturity; Of the Products of Plantations, and of the Terms used by Foresters to Denote these Products—Description of the Varieties of the Mushroom and the Best Manner of Preparing Beds for its Cultivation—Directions for Preparing and Managing Hot-Beds—Cultivation of Winter Squashes—Second Prize Essay, Rural Economy, by N. Herbermont, of Columbia, S. C. "Honesty is the Best Policy"—Diseases in Horses—Advertisements—Prices Current of Country Produce in the New York and Baltimore Markets.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, basement of Barnum's City hotel,) by I. IRVINE HITCHCOCK, on the following

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged by the year, and never for a shorter term.
3. When one sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.
7. All Postmasters are requested to act as agents for the Farmer; they are authorized to retain \$1 for each new subscriber, and 10 per cent. on all other collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, APRIL 6, 1832.

MORE NEW FRUITS. The Editor of the American Farmer acknowledges with gratitude, the receipt from Col. J. O'Fallon, of St. Louis, of some seeds, of a new and excellent fruit tree, called Indian Pear. Col. O'Fallon received this seed from Maj. Dougherty, Indian agent, on the upper Missouri, unaccompanied with a description of the quality and character of the fruit or tree. The Col. however, presumes that Maj. Dougherty considers it an acquisition and worthy of culture, or he would not have taken the trouble of obtaining the seed, the tree growing near the head of the Arkansas, several hundred miles from his residence. Fortunately, during the latter part of last winter we became acquainted with Maj. Sanford, who was here with a party of Indians from the upper Missouri, and received from him a few seeds of the same fruit and a description of the tree and the qualities of the fruit. Maj. Sandford gathered the fruit from the neighbourhood of Moose mountain, between 45 and 50° north lat. where it grows in great abundance on the sides of hills. He says the Indians gather and dry the fruit, for food in winter and on journeys; they put it in various dishes to which it is a great addition. The fruit is very similar to large whortleberries, dark purple colour, and the tree resembles very much the service berry tree. Maj. Sandford says that this fruit when ripe is very delicious, sufficiently acid to be agreeable and yet not so much so as to be hurtful. He says that the Indians are in the habit of eating large quantities of the fruit, when they come to a tree, after being without food for a length of time, without the slightest injury—this he has done himself frequently. The major's party brought a large quantity of the dried fruit for food, on their passage down the western rivers. He describes the Indian pear as being decidedly the best fruit in that part of the western country, and thinks it would be a great acquisition to our fruit gardens. The tree grows from six to ten feet high, beautifully formed, and ornamental. We have taken great pains with the seeds so politely presented to us by Major Sandford and Col. O'Fallon, by planting them in various places and different ways, and hope to be able to get at least a few of them. We shall be greatly obliged to any one who will furnish us with the botanical name of this plant if it is known to botanists. It is called by the Indians in the country where it grows, *Poire Sauvage*, the French of Indian pear; they sometimes call it "the berry that weighs"—or rather, this is the English of the Indian name.

Maj. Sandford also gave us a few seeds of the *Yellow Buffalo berry*, which is very scarce. The tree is exactly like the scarlet buffalo berry, a most beautiful ornamental tree, and the fruit excellent. The berries are of a bright golden yellow when ripe; and when dried, of a clear amber color. Of this species of buffalo berry Maj. Sandford says he never saw but one tree, notwithstanding he has been travelling in the country where it is a native for many years. As the scarlet is called the buffalo berry, the Major thinks the yellow should be called the *Elk berry*. We hope however it will take its true botanical name from the first, that there may be no confusion of names.

We are also indebted to Col. O'Fallon for a few of the *Sand cherry trees*, of Missouri, the *Arkansas plum*, some sweet scented grass from the mouth of the Yellow Stone, and some cuttings of the Ryland and Father Thomas Grapes, found 200 miles west of St. Louis, and said to be the best of any grapes yet found in that country. The Col. received a plant of each of these grapes from a celebrated botanist who would travel 900 miles for a root that would add to his collection. He is now no more, and the Col. remarks that the science of botany in that region has received a severe blow by his death. The Arkansas plum grows

upon a bush not much exceeding six-feet high, and is a fruit highly esteemed by the Indians.

All these new fruits we shall do all in our power to propagate, sparing neither labour nor expense in the attempt; and if we succeed, of which we have little doubt, we shall be able to test their value as an addition to our already extensive collection of fruits.

☞ An article from David Thomas on Cheat, from "Gleaner" on the same subject, and one from Dr. R. R. Harden on Snake bites, have been received, and will appear in No. 5 and 6.

HEXAGONAL PLANTING.

MR. SMITH: Annapolis, March 26, 1832.

In the American Farmer of the twenty-third inst., I noticed the "Hexagonal mode of Planting" as per diagram therewith exhibited. I last year planted some corn in a similar manner, but with a different motive. My design in thus laying off the corn hills, was to introduce a freer circulation of air between the rows than could well be obtained by any other means. Besides this, the sun could get more readily to the corn when growing.

According to this method, it will be perceived by the diagram annexed to Fig. 1,* that the sun and air are diffused throughout the whole bed, or field of corn in any direction the wind may blow, or the sun move, or shine. J. F. B.

THE JUNE GRAPE.

Extract of a letter from Col. J. O'Fallon to the editor of the American Farmer, dated St. Louis,

Missouri, Feb. 13, 1832.

I notice in your valuable paper of the 27th ult. just received, an extract from Col. Long's journal, giving a description of an extraordinary grape that ripens in June; which, I presume, grows in Arkansas Territory; having never heard of such a grape west of this and north of said Territory, except a very small grape that ripens in June, to be found in the bottoms of the Kansas, about 80 miles above its mouth, represented as very productive. Its fruit having failed the last year prevented my obtaining the seed. I am induced to believe, from information obtained from Surveyors, that the Arkansas Territory contains the finest natives in the United States—varieties, calculated for the table and wine, that will ripen regularly in that latitude, without being subject to the diseases of foreign and most of our cultivated natives.

FOREIGN MARKETS.

HAVRE MARKET, Feb. 20th, 1832.—The following report embraces the transactions from the 9th to Saturday the 18th inst., inclusive:—

Corn and Flour.—There has been scarcely any thing doing in Foreign Wheat; only 400 sacks Pomerania of good quality have been taken for home consumption at 6½ per sack of 200 no duty paid, the bulk of our stock remains in bond; owing to the present high rates of duty.—We have received from New York ex Rhone, 1200 ko. Wheat. French Wheat has advanced 9¢ per sack since our last, and is selling at 60a66¢ per sack of 200 ko. We have to notice a fair demand for United States; 1000 brls. Genesee, of fine quality, imported by Rhone, have been purchased at 40¢ in bond.

Cottons.—We have had, during the last ten days, a good run of business of this article. The demand has continued to bear principally on new Uplands, which have experienced an advance of about 2 cents times per ½ ko. on an average. Louisiana and old United States short staple Cottons, have not varied, nor have we any change to notice in other kinds. The sales comprise 5000 bales, as follows, 1720 bales Louisiana, at 80 to 103; 3219 bales Uplands, Mobile

and Alabama, at 72 to 91, and 67 bales Bahia at 95; all these prices duty paid.—Owing to the easterly winds which have constantly prevailed, the arrivals have only amounted to 1011 bales United States exclusive of the cargo of the New Orleans, from New Orleans

Stock 31st Jan. 26,578 bales of which 24,458 bales S. S.
Ar. up to Feb. 18, 6,371 6,371

	32,949	38,829
Sales up to 18th 23,334	11,818	

Stock 18th do. 20,025	17,616
-----------------------	--------

Rice has been selling at our last quotations: 94 tierces new Carolina, of good quality, fetched 26¢ and 26½ 50 ko. duty paid; we have further to notice a sale of 150 tes, new Carolina, expected from Savannah, at 25, import; 413 tierces and 64 half tierces from Charleston, ex Hellespont.

SKELETONS OF LEAVES, FLOWERS, &c.

We often see in museums and scientific collections, those beautiful and delicate preparations, which afford the reflective mind materials for contemplation, at the creative power of the Omnipotent Deity. The manner in which these specimens, or skeleton leaves, as they are denominated, are made, has been frequently kept a profound secret by those who are in the habit of making them; but the method is extremely simple, and performed as follows:—The leaves are to be placed in a small portion of water until it is perfectly putrid, and for this purpose hot water is to be preferred; it is then to be taken out and laid upon a marble slab, or flat surface, a delicate stream of clear water is then gently to be poured upon it, and thus the putrid particles are washed away, leaving nothing behind but a series of apparently woody fibres, or sap vessels, which constitute a beautiful net-work, particularly in the smaller leaves. This operation being performed, it is to be placed in its natural situation to dry, and when this is accomplished, it may be glued on a table of black velvet (as is usually done,) placed in a glazed frame or glass case as fancy may direct. This being done, it may be put in a museum, and thus be preserved for years. Until the student is *au fait* in these preparations, he should commence his experiments with the largest leaves, as he will be less likely to fail, than with the more delicate.

[Scientific Gazette.

INSTINCT IN SHEEP.—About the middle of April last, I observed a young lamb entangled among briars. It had seemingly struggled for liberty until it was quite exhausted. Its mother was present, endeavouring with her head and feet to disentangle it. After having attempted in vain for a long time to effect this purpose she left it and ran away, *bawling* with all her might. We fancied there was something peculiarly doleful in her voice. Thus she proceeded across three large fields, and through four strong hedges, until she came to a flock of sheep. From not having been able to follow her, I could not watch her motions when with them. However, she left them in about five minutes, accompanied with a large ram that had two powerful horns. They returned speedily towards the poor lamb; and as soon as they reached it the ram immediately set about liberating it; which he did in a few minutes, by dragging away the briars with his horns.

[Magazine of Natural History.

Lime-water for destroying Worms.—The use of Lime-water for destroying worms, was lately discovered in a garden near Edinburgh, by the overflowing of a brook strongly impregnated with alkali from the refuse lime of the gas-works. Wherever the soil of the garden was reached by this water, it threw up myriads of worms, which never returned again to their holes.—Scotsman.

* See American Farmer, No. 2, Vol. 14

AGRICULTURE.

ON CHEAT.

MR. SMITH:

Columbia, S. C. Feb. 18th, 1832.

Dear Sir,—*Cheat* of various sorts has for some time past produced some excitement in the world. Of all them I select the most innocent, and raise my feeble voice in its defence; for the others are too powerful for me, and were I to say any thing on them, it would be in the most indignant style of reprobation. That to which I now beg your indulgent attention, is that poor, unfortunate, and *honest cheat* which is falsely accused of cheating the farmer out of his wheat, and place itself in its stead. It is even accused of much worse; for its accusers and detractors are, many of them, ready to swear, even in a court of justice, that, by witchcraft or some other devilry, it deprives the wheat of its goodly and most useful form, that it may supply its place with its useless self. I am not at all disposed to attribute to sheer malice, these false accusations; for false they most undoubtedly are; neither am I otherwise than firmly persuaded that its persevering and numerous accusers are perfectly honest and sincere in their enmity to the innocent thing. What, then, makes them so inveterate against it? I fear that, in answering this question directly and honestly, I may give offence; and yet, what must a man do when he undertakes the defence of innocence? He must run the risk, and this I do, with the most solemn assurance that it is as far from my intention, as it is from their own, to give offence to any one. Ignorance, then, is the cause: that is, persons are deceived by appearances to which they give credit too lightly. All the world knows that most honest men frequently give contrary evidence in courts of law, on facts much more plain and simple than those relating to the cheat. This shows clearly how cautious we ought to be in forming a decided opinion, even in plain cases. But how much more cautious should we be before we decide most positively in favor of an opinion that is at variance with all the known laws of nature and sound theory. *Theory*, I am afraid I have used here a word which will excite in many, a smile of contempt. Yet it is a respectable thing. I take theory to be the sound, rational and analytical deductions of science, and these must outweigh supposititious facts; facts resting for their evidence on mere appearances, or on circumstances that are exceedingly difficult of undoubted evidence. What would the world say of me, were I to declare and be ready to swear that my horse, which I have rode for years, turned into a cow by being improperly fed? Yet this is an analogous case, and I ask whether before I can believe such a thing or make others believe it, I ought not to rest my assertions on proofs such as could not leave the smallest chance of a doubt? We see cheat grow where wheat was sown; true; but we see also many other plants. We see a tuft of wheat with several heads of cheat; but first, are we certain that it is really cheat; and if it be, have we examined the roots with full and sufficient accuracy to be positively sure that they are not two distinct roots intermixed? But I am not bound to show in how many very various ways an observer may be deceived. Volumes might be filled with the notice of them. It is sufficient that the metamorphosis be contrary to nature and the command of him that created it. when he impressed on every animal and vegetable the faculty of reproduction, "*each after its kind*." Now, if wheat is a degenerated cheat, or cheat a degenerated wheat, they would bear most undoubtedly the same botanical characters, which they certainly do not. They are as distinct as the oak from the pine; as the dog from the horse. I may be told that these are mere assertions; but they are most surely susceptible of the clearest proofs. Let any one, who doubts the fact, apply to a scientific botanist, and his doubts will be removed by ocular demonstration; unless he refuses assent to the evidence of his senses

because they are directed to it by the lights of science. The fact is also susceptible of another proof. Every man knows that if he sows lettuce, cabbages will not be the result, even if the seed had been produced by a most degenerated or neglected plant; yet it will produce lettuce, be it mean or otherwise. If wheat, therefore, by any means whatever, degenerate into cheat, still it will be wheat, and its seed will produce wheat. Now, the first time that I took notice of the plant cheat, many years since, it was in a wheat field of a most respectable friend, the late general Davie, of Chester district in this state. I asked him what fine grass that was, (and although it had not headed, there was no difficulty in distinguishing it from the wheat.) He answered: "What do you not know the celebrated cheat, which is believed by many to be degenerated wheat?" On my expressing a belief, that it would make very fine hay, he stated to me that a friend of his at the north was formerly in the practice of cultivating it for this purpose, and that his hay always commanded the best price in market. I requested, that when it was ripe, he would send me some of the seed, which he did, and I cultivated it several years for hay, and only discontinued it because, as my land was not suitable for wheat, which I never cultivated on that farm, it was not either suitable for the profitable cultivation of the cheat. It grew very well, however, in particular spots, and I am most certain that it never produced, even as much as one grain of wheat. If cheat was really degenerated wheat, some of it, at least in the richest spots of the ground, must have exhibited some marks of its origin; but none such was visible in the slightest degree. The inference from this fact appears to me conclusive, particularly when corroborated with all the other considerations given by other observers and scientific men on this subject, to which I may add as the last, though not the least, the *impossibility of the change*. I say impossibility; for nature is too regular in her operations and productions to deviate in this single instance. It is, therefore an impossibility of the same nature as this, that the sun will not rise to-morrow, when it has never been known once to fail.

The discussion of this subject may appear idle to many; but it is not so. Every thing that tends to elucidate the operations of nature, is interesting to the farmer particularly, whose entire business is dependent on these operations. It becomes him, then, to acquire all the knowledge he may have within his reach, so that he may go to his work understandingly, and not waste a part of his powers in opposing nature, which he never can conquer, and which it would be most injurious, if he could. Such a discussion has a tendency to induce men to dive into the arcanæ of nature, and most ultimately be productive of the happiest results. It is now past the time when "book knowledge" was derided by the farmer, and the next profitable step is the acquiring of it. I am, dear sir, respectfully your obedient servant,

N. HERBERT.

Feb. 24th.

I had written the above several days before I received the A. Farmer, of the 7th inst., containing a piece on Cheat, &c., by Dr. Joseph E. Muse. It is possible, that if I had seen this gentleman's observations before, I might not have written mine; for it is idle to reason with persons who are determined not to be convinced. But, however, as I do not write for any one who appears indissolubly married to error, and who has reached "*immutable conviction*," I send them on to you, to be inserted, or not, as you may think proper.

It appears to me that the single fact that wheat is said, in different countries, to change to very different plants; as cheat (*bromus secalinus*) in this country, and darnel (*lolium temulentum*) in Europe, must produce, if not absolute conviction of the fallacy of the transmutation, at least very forcible doubts of its truth. I have seen a man put a small cork ball under a cup, and when he took up the cup, soon after, the ball was

changed to an orange, and another time, to a potato! I have seen this, not once, but many times, and I am fully satisfied that many more persons have seen the performance of this trick, than have witnessed the change of wheat into cheat. Now, I did not know how the cork ball was changed into an orange, or potato, and I looked too keenly, I thought, to be deceived, and I never could detect the operator in putting the orange under the cup. Am I, therefore bound to believe in the change? And yet, this is very much like the reasoning of the advocates for the change of wheat to cheat. If I am deceived in this, I beg the advocates of the change to show me the difference of their arguments as regards cheat, from mine as regards the orange. It appears to me that men of learning should assist in dispelling the obscurity of ignorance, and in discarding all unphilosophical views on natural subjects. It is, therefore much to be regretted, that Dr. M. should use erudition, and exert his talents to propagate error, and bring, as proofs on his side, facts, the existence of which, is at least doubtful. Where has he found the satisfactory proofs that wheat is only "a factitious production," and that the almond is the parent of the peach? And this, were it clearly proven, would still be very far from conclusive. No body doubts that natural productions are improved and altered in their appearance and usefulness by the cares and art of the cultivator. The cabbage, for instance, never formed heads, (I believe) in its native state, that weighed from ten to twenty pounds; but yet it was then the same botanical plant that it is now. As to Dr. M's anomalous growth of Indian corn, every farmer, I presume, has seen it. Every man has also seen great lumps on the trunks of oak and other trees, and a hump on a man's back, and therefore, according to the reasoning of our opponents, the corn was no longer corn; because it bore a grain somewhat differently placed from that in ordinary cases. The oak was no longer an oak; because it had a tumour on its trunk; and the man was no longer a man; because he had a hump on his back! May we not be allowed to say, that if "*the philosopher in his vanity, may uphold the mysterious fact*," &c., it may also be possible that there be such a thing as the *timidity of ignorance*, that may uphold that *other men should have other and more philosophical views of things than they themselves entertain*? As to the testimony of the ancients, with all due veneration for them, I must think that they were men and "*humanum est errare*." If their evidence is to be taken fully, we cannot refuse our credence to a thousand things which they professed to believe, and which are indubitably proven to be erroneous and absurd. N. II.

IMPROVEMENT OF WORN OUT LAND.

Extract from a letter from a Gentleman of Fairfax county, Va. to R. K. Meade, of White Post, Va.

9th March, 1832.

I really take shame to myself, for not having kept my promise, but I feel some difficulty, in giving you my ideas, on improving poor land, because, I find but few people, who can succeed in doing so, unless they spend more money, in the improvements, than they make, during the period, they are at work, and so far as improvements go, I want to see Bonnaparte's system of war pursued, "*Let war support war*." It is easy enough to improve land, but we must take care that it does not "*cost more than it comes to*," and I never feel satisfied, when I see people sinking money by improvements, as they too often call them—it is too much like building a fine house, before building the barn; "*many a house comes out of a barn, but a barn never comes out of a house*," says the Dutchman.

With respect to improving poor land, in my opinion, we must first keep it as dry as possible, that is never suffer any water to run over it, but to pass the water into ditches and drains with all speed, and particularly so, if the land be under the plough; water strongly in-

pregnated with a substance, *better* than the soil over which it is to pass, will improve grass land, if suffered to pass over it; but if it be impregnated with soils poorer than what it passes over, it makes matters bad indeed. This latter, has ruined half Fairfax—and more so; by suffering it to pass over *ploughed* land. If ever I own any Fairfax land, my first attempt will be, to pass off the water, in the readiest manner to the river; and where the land washes into gullies, to turn the water from them before it reaches them by running it nearly on a level, the *reverse* way to the water course, into which I want to put it, that is, should the water course run *north*, I would carry the water, I wanted to keep out of the gullies, *south* until it struck the water course. Banks may be formed, by turning the horses to the right when ploughing it, something like listing for corn; taking care, to ascertain by a level, the proper fall for the water—there is scarcely any expense in this mode of stopping gullies—as nearly all the work may be done by the plough, when turning over the land. The Romans understood this well, as may be seen in England, but I never met with a man there, who could discover, why so many hill sides, are still in this form; but here, I see the want of these steps, as we used to call them. My next attempt would be to plough over the broom sedge land, with a plough I have got cast in Alexandria, not too deep, and after it had remained from six to twelve months, to sow it with buck-wheat, the beginning of May, and when the crop was in seed, to harrow or roll the land, in order to beat out the seed so as to again grow, and at the proper season plough in the whole mass, and sow the land with wheat or rye, and timothy, and in the spring, sow it again with clover, when it should be pastured very lightly, for two years, or perhaps mown, as the crop might turn out; when it might be again ploughed, in the fall, and again sowed with grain, timothy and clover, to remain still longer, under the sod, if the land did not get too foul; and when I could *manure* it, plant corn, to clean the same, and at the last *ploughing*, again sow timothy and perhaps clover, in order, that the land should not wash; to remain one year or longer, then small grain and timothy and clover, to remain so long as it remained good—taking care to plaster the land, at proper times, and use lime, ashes, &c. if they could be procured. All this might, I think be done, and by pasturing and cropping the land, its expenses covered, and the land improved. But I admit, this is all theory, however, it will not, I think remain much longer so. Buck-wheat, is a sour plant, and I am fearful of it, as those plants do the most good, when ploughed in, which are full of oil or sugar, but any vegetable matter *under* the soil, is better than to suffer it to run into *putty*, for want of vegetables in it. You see I am for keeping a sod under the furrow, until I can make another at the top of it, and then turn the furrow over once more, and so on. Corn and tobacco will, in time ruin any land, by destroying its vegetable matter, particularly on uneven land, as it then washes. Land cannot be too full of fibres of plants, provided they will decay when you want them to do so; but brown sedge roots will scarcely rot at all nor can any plant grow, until they are decayed.

Another grand error I see every where—great consequences arise from small blunders. Most people turn their horses, the *terong* way round; when they plough with right hand ploughs by always turning to the *left*, the soil is worked out of the field, turn to the right and you keep it in; do try this, I think it of the utmost consequence. People in general throw all their best soil into the ditches or water courses. With the greatest respect to yourself and family, and in which my family unite.

I remain, Dear Sir, yours most truly. S.

Why are chesnuts best preserved through winter in sand?

Because, if there be any maggots in the chesnuts, they will come out, and work through the sand to get air.

(From the Lancaster Examiner.)

MR. WAGNER:—Among the subjects which occupied our pen during the winter evenings, we found the following in our escritoire. As your paper circulates widely among the farmers, we trust they will profit by the following observations.

REMARKS ON GRASS SEED.

The fact that farmers have been in a habit of sowing *too little* seed per acre, has been verified by experience among all inquiring agriculturists. About forty years ago (peradventure) a half bushel of wheat was considered sufficient for an acre of ground; but after a series of experiments the proper quantity has been found to exceed three times the above allowance.—The same circumstance will apply with equal force to grass seed—and clover particularly. Were a person to inquire of our best farmers and wheat growers, what quantity of clover seed should be sown per acre, he would be instructed to sow a half a bushel upon eight acres. The consequence is, if the seed be good, the ground previously manured, (barnyard manure contains seed) and the season wet—probably, with timothy and natural grass, there may be a tolerable crop; but if the seed be bad, or damaged, (oftentimes cloverseed is full of black and blighted grains, when scarce half will grow,) and sowed late, after the earth has settled, the best fields lie a temporary waste as it were, and the ground is thus completely starved, for want of that nutriment which grasses afford so abundantly. Perhaps nothing tends more to exhaust the soil, than to have it to lie for years, as pasture fields do—bare, free from any covering to protect it from exposure to the washing rains, burning sun, and severe frosts alternately, peculiar to our climate. By this process the nutritious vegetable substance, evidently, will be evolved to the surface, and for want of its verdant shields, much will be lost by evaporation.

We cannot forbear pointing out another palpable disadvantage in the present pace. When the clover is sown thinly the growth will be extremely coarse; on the contrary, when the seed is sufficient the clover will grow very fine, and the stems will not be rejected, either by cattle or horses.

The proper season for sowing clover seed, is also a matter of primary importance. Clover seed is sown principally in March and April—a season which must meet the disapprobation of every theorist. In March and April the earth almost uniformly, is settled in some measure, so as to secure the vegetation of the seed only which may drop in the crevices left by the frost, while that falling on the settled surface will not take sufficient root to withstand the coming drought. Whereas if clover seed be sown in February, it will take root before the drying winds of summer commence. We never knew clover seed to germinate on ground, below 60° or 70° of Fahrenheit, hence there need be no apprehensions entertained that frost will injure it after it is up. In February the earth is too cold, under the most favourable circumstances, to make grass seed grow. There is among others, this advantage in sowing in February, the seed will remain in the ground, mixing with the earth as it breaks by the parting frost—and when the state of the earth and weather favours its growth, it will take root before it is caught by the summer drought. Our experience, in addition to that of some of our friends who have given the same a trial, will warrant the correctness of our remarks. On enquiring of a friend how he succeeded with clover, he observed, that clover was formerly with him an uncertain crop. "but," said he, "since I have sown my clover seed (for ten years past) in February I have not missed a full crop."

As we are, in great measure, indebted to clover and gypsum for the new face which has been put on our farms, it is very desirable that a successful method of cultivating clover, should be generally adopted, by our farmers.

We recommend, to all those who wish to improve their farms—all the admirers of the variegated beauties which clover affords in May or June, mingling in all the varied colours of the rainbow, over the cultivated fields,—to all the lovers of the delightful and fragrant odour which it imparts to the atmosphere when in flower ('tis the "Farmer" who participates largely in all these enjoyments of nature,) to sow at least eight quarts of clover seed per acre, in the middle or latter end of February, sowing (according to circumstances,) one bushel of orchard grass and one pint timothy seed when the grain is sown the fall preceding. If the ground be in good condition, an excellent herbage or pasture, and an abundant crop of first rate hay, will be the infallible consequence.

A LANCASTER COUNTY FARMER.

Springtown, Pequa, March 2, 1832.

(From the Village Record.)

LIME.

Wakefield, near Germantown, }
3d Mo. 12th. }

MR. EDITOR:

Observing in your paper some queries respecting the use in England, of pulverized lime-stone instead of lime as a manure, in which you express some doubts on the subject; I refer you to Anderson's treatise on lime, both as a manure and cement, published more than thirty years ago—and which yet remains to be the best work on the subject; in which it is stated, that Du Hamel had originally made the discovery of the efficacy of pulverized lime-stone as a manure, that mills had been erected to pound it, and that it is applicable to all places where fuel is scarce, and water power plenty; otherwise he speaks of it as possessing no advantages over burnt lime as a manure, and in fact his general reasoning, is much in favor of the latter—that it will dissolve slower and last longer, he does not doubt, but argues in favor of no increased effect upon the whole. The work is probably scarce, and as it contains many valuable particulars respecting lime, its republication would be desirable.

Anderson states that most lime-stone contains a large proportion of sand, some of it two-thirds; that lime from such stone is heavier in proportion to the sand, and lacks with greater facility, that such lime makes an equally good cement, requiring however less sand, and as a manure, it is only efficacious in proportion to the calcareous matter it contains; and he reasons at large upon the greater economy of purchasing lime, made from pure lime-stone. The quantity of sand he says may easily be detected by accurately weighing a given quantity, pulverizing it, and then putting it gradually into aquafortis, till it ceases entirely to effervesce, putting in a few drops of the acid, afterwards to be sure that there has been enough to dissolve all the calcareous matter. On the sand, the acid will not act, and by filtering it carefully through paper, and weighing it, its relative quantity to the whole, may be accurately ascertained, and thus the value of different lime quarries may be decided.

Anderson supposes that all calcareous matter is alike efficacious as manures, whether marl, chalk, lime, or lime-stone, and that they are only inferior to each other in proportion as they are mixed with foreign materials. He argues in favor of a much larger use of lime than is common in this country, even to a thousand bushels per acre saying that its effect is in proportion to the quantity, and denying the popular idea, of burning up the land, by using too much of it.

While on the subject of agriculture, permit me to call the attention of the farmers of Chester county, to the subject of vegetable oils from rape seed, Swedish turnip seed, &c. In Europe tens of thousands of

* Cocksfoot or Orchard Grass, is not tenacious of life like Blue Grass, as some erroneously imagine. It has the advantage of Timothy, in being mature at the same time clover is, and is less exhausting to the soils. It is of quick growth and reproduces speedily after being cut, or eaten down.

acres are annually appropriated to this culture with great success, while in this country, with an almost unlimited demand for the oil, with the exception of one gentleman in Hagerstown who has raised the seed and crushed it for some years, to great advantage it is hardly known. By means of hydraulic presses, of 4 to 600 tons, a manufacture might be formed in every neighborhood. The cakes or refuse is valuable for cattle, and the seed is said to yield near three gallons of oil to the bushel, it would probably be worth sixty cents per gallon, being for many purposes equal to spermaceti oil, and I presume it would yield a profit to farmers removed from market, very superior to the general routine of agricultural pursuits. The seed should be sown in September, and land suitable for wheat is applicable for rape seed. Sir John Sinclair, former president of the British board of agriculture, speaks of Swedish turnip being preferable to rape.

The whale fishery yields about 200,000 barrels of oil annually, about one half being what is called the "right whale oil," from its inferiority; is mostly exported to Europe, the residue from the spermaceti whale, is used at home. For a proportion of this oil, rape oil, might be advantageously substituted.

It is well known that the fishery has for years past been scarcely able to keep pace with the increased demand; the consequence is, that much inferior oil is sold as the best, and we have a poor article at a high price. The present price of spermaceti oil by the quantity, is 70 to 80 cents per gallon. Every factory is to be lighted with it, every spindle greased with it; that without lessening the demand for spermaceti oil, the sale would be extensive for rape oil, the agricultural interest much benefited; and it is probable manufactories might be established at Downingtown, West-Chester, &c., with little pecuniary cost—and with much pecuniary profit. But first it is necessary to raise the seed, and intelligent farmers who may feel interested, may obtain it, is believed, every information upon the subject, from Hagerstown, Maryland.

WM. LOGAN FISHER.

(From the New England Farmer.)

MANURE.

MR. EDITOR:

Bridgeport, Feb. 6, 1832.

Few farmers are aware of how much of the strength of manure is lost and carried off, by rains, from their barn yards; especially when situated on the road and descending towards it, as is often seen, and a stream the color of strong ley or brown stout constantly running from it. My yard is about 60 by 40 feet, and discharging towards the centre—the cattle stalls under the hovel on one side, with a clay bottom, also descend without any obstruction to the same point. There is a wooden tank sunk at one end, which will contain eight puncheons, but no drainings can run into the tank, until it is over eight inches deep in the centre; and yet although the litter is generally a foot thick, such is the quantity of moisture which accumulates from the 1st of March to the 1st of July, that one rainy day that will fill a puncheon which receives a quarter of the rain which falls on the roof of a house 40 by 40 feet, fills the tank after saturating the litter. How much then would be lost from a level yard or from one descending toward the street? and how much the dung must be deteriorated, after having such a quantity of its strength carried off by every rain. This liquid is drawn up into a puncheon, mounted on a horse cart, thence conducted into a sprinkler, such as is used for watering the streets of cities, and driven over my grass lands nearest home until the grass is half knee high, after which it is drawn out of the cask in buckets, and thrown on the compost heap, which is generally in the highest part of the field which is intended to be next ploughed or broke up. My hired man can, when he chooses, carry out and sprinkle the contents of the tank in half a day.

Perhaps some of your readers would like to know the dimensions, materials, and expense of the tank. Material, the heavy southern 14 inch pitch pine, joined by a straight edge as if to be glued. Dimensions, 6 feet long, 4 wide, and 4 deep. I think this material will last as long under ground as brick; it is covered with thick plank and we drive loaded carts over it. Whole expense, about thirteen dollars. It ought, however, to be larger, as it often runs over before we have an opportunity to carry it out. I think it has been perfectly tight from the first, as I have seen it stand full, within an inch, for many days.

An Irishman who lived with me, said he had lived in the neighborhood of a farmer who had a large one, and used to throw in every dead animal he could procure, and would run it over land drilled for potatoes, with as many tap holes in the cask; as there were drill rows under it.

B.

HORTICULTURE.

(From Prince's Pomological Manual.)

STRAWBERRIES.

BULLOCK'S BLOOD—*Lond. Hort. Trans. Lind.*

This fruit is of large size, of ovate form, and of a light shining red hue; the seeds are dark red on the sunny side, yellow on the other, projecting from a polished surface; the flesh is pale red, firm, juicy, and of indifferent flavour.

DUTCH—*Lond. Hort. Trans. Lind.*

This fruit is of a brilliant red colour, of round form and large size; the seeds project from a smooth varnished surface; the flesh is pale red, downy, hollow at the centre, with a core, and of indifferent flavour.

BOSTOCK—*Pr. Cat. Lond. Hort. Trans. Lind.*

Caledonian. New Bath. Prolific Bath.

Rostock. Rostock Pine. Whately's Pine.

This variety produces very large fruit, of nearly round form, slightly hairy, with a small neck; the largest berries are irregularly swelled towards the base, and terminate in a point which is of a dark polished red next the sun, and light scarlet on the opposite side; the seeds are prominent, brown on one side of the fruit, and yellow on the other; the flesh is of a pale scarlet hue, firm, coarse, with a small hollow acid core, and without any particular flavour.

GLAZED PINE—*Lond. Hort. Trans. Lind.*

Scarlet Pine apple. Knoll's Pine.

The fruit of this variety is variable in point of form; the largest berries often appear as if compressed, but are generally conical, with a neck; large, hairy, of a darkish varnished scarlet, and the seeds prominent; the flesh is of a pale scarlet hue, firm, with a large core; the flavour good, but inferior to that of the Old Pine.

BATH SCARLET—*Pr. Cat. Lond. Hort. Trans. Lind.*

Devonshire. North's seedling. Golden Drop.

Nitche's seedling.

This variety produces scarlet fruit of a roundish or ovate form, with a short neck, small for its class; the flesh is soft, with a large core, pale scarlet, and very coarse, without any particular flavour; the seeds are very prominent and of a dark shining red hue.

BLACK PINE—*Lond. Hort. Trans. Lind.*

Winhol's Black Imperial.

This fruit is of a very dark purplish hue, hairy, and of medium size; its form depressed, spherical, with a furrow at the apex; the seeds slightly embedded; the skin highly polished; the flesh solid, firm, of a rich dull scarlet with a small core; the juice dark and highly flavoured.

GIBBS' SEEDLING BLACK—*Lond. Hort. Trans. Lind.*

The fruit of this variety is small, conical, and hairy, with a neck; and of a dark purplish red colour; the flesh scarlet, firm and very high flavoured.

OLD BLACK—*Lond. Hort. Trans. Lind.*
Black Pine. Turkey Pine. Mulberry. Black Canterbury.

This fruit is of a medium size, conical form, elongated, and pointed, with a neck, hairy, and very dark purplish red; the flesh is scarlet and firm, with a buttery core, very rich and high flavoured.

PITMASTON BLACK—*Pr. Cat. Lond. Hort. Trans. Lind.*

Late Pitmaston Black.

This fruit is of medium size, ovate, with a neck, slightly hairy, and of a very dark purplish red hue; the flesh scarlet, solid and very firm, buttery and of a rich flavour; seeds are slightly embedded.

EARLY SCARLET—*Pr. Cat.*

Morrissiana or 7 of Prince's Catalogue for the last Early Scarlet, 56 sixty years.

Morrissiana scarlet. Lond. Hort. Trans. Lind.

Fragaria virginiana. Lin. Pursh. For. Nat. and other botanists.

This is the type or original species of the class termed "Scarlet strawberries." The plants in the garden of the London Horticultural Society, denominated "Morrissiana scarlet," were sent to them by the father of the author, and were collected in the woods of Morrissiana, the seat of the late Governor Morris, Esq. They are identical with the common *Fragaria virginiana*, found so common in our woods and uncultivated fields. The berries are small, but occasionally attain a medium size; their form is roundish, the colour red, and they are produced in clusters; the seeds are not numerous, rather deeply embedded, with wide rounded intervals; the flesh whitish, soft, with a detached core; the flavour when in a wild state is superior, but perhaps not equal when the plants are cultivated in gardens.

AMERICAN SCARLET—*Lond. Hort. Trans. Lind.*
Black American.

They cultivate in England a variety by the above title, which I presume originated there from seed of the preceding one, though it may possibly have been transported from our forests. The fruit is large, conical, and pointed, with a neck, of a deep rich shining blood red, and rough; the seeds numerous, brownish; not deeply embedded, with sharp intervals; the flesh dark scarlet, firm, with a core; and the flavor rich and agreeable.

AUTUMN SCARLET—*Lond. Hort. Trans. Lind.*

The fruit of this is of medium size, and ovate form, with a neck, and of an uniform dark shining red; the seeds yellow, deeply embedded, with ridged intervals; the flesh solid, firm, of a pale scarlet hue and good flavor.

BISHOP'S SEEDLING SCARLET—*Lond. Hort. Trans. Lind.*

This variety produces fruit of a moderate size, round, with a neck, hairy, and of a light scarlet color; the seeds deeply embedded, with ridged intervals, the flesh solid, firm, and pale scarlet, with a moderate flavor.

CARLINE SCARLET—*Lond. Hort. Trans. Lind.*
Caroline Roscherry.

This fruit is of a large size, bluntly conical, with a neck, and of a brilliant shining varnished red; the seeds are slightly embedded, with sharp ridged intervals; the flesh is of a pale scarlet hue tinged with red, firm and of a very high flavor.

MELON—*Pr. Cat. Lond. Gard. Mag.*

LONDON gives the following description of this variety. It is a seedling raised at Aberdeen, which has been declared by Dr. Dyce of that city, to be "the finest variety in existence." "The size and shape of this fruit in a great measure resemble the roseberry but rather larger, the colour is very dark, the flavor exquisite, and the plant is an abundant bearer and forces well." The above description (Mr. Loudon observes) was sent to London together with two or three plants, by Mr. Alexander Diack, secretary to

the Aberdeen Horticultural Society; and Mr. L. further states that he has tasted in Mr. Groom's garden what are there called Diack's No. 1 and No. 2, which are excellent strawberries and great bearers.

GARNSTONE SCARLET—*Hort. Trans. Lind.*

This fruit is of medium size, round, hairy, with a short neck and of a rich glossy scarlet hue; the seeds are red, deeply embedded, with round intervals; the flesh scarlet, firm, with a sharp agreeable flavor.

GRIMSTONE SCARLET—*Hort. Trans. Lind.*

This fruit is of medium size, conical, with a neck, and of a dark scarlet colour; the seeds are numerous, variously but deeply embedded, with regular acutely ridged intervals; the flesh solid, pale scarlet, of excellent flavor, and possessing a peculiar sweetness.

HUDSON'S BAY—*Pr. Cat.*

Hudson's Bay Scarlet—*Hort. Trans. Lind.*
American Scarlet, Late Scarlet, } of English
Hudson's Pine, York river Scarlet. } Catalogues, &c.
Hopwood's Scarlet.

This variety is more extensively cultivated for supplying the markets of New-York than any other. The large early scarlet is the only one preferred to it for the same object, but that of recent origin, and has not yet become generally disseminated, owing in a great measure to the unwillingness of the person who raised it to allow it to go out of his possession. The fruit of the present variety is quite large, with a neck, irregularly shaped, approaching to ovate, and of a dark rich shining red hue; the seeds are unequal in size, deeply embedded, with ridged intervals; the flesh is a pale scarlet, firm, hollow, with a core; of good flavor with some acidity. The berries should not be gathered until they assume a dark color and are fully ripe, as otherwise the acidity of the fruit predominates, and injures its flavor. This is an exceedingly productive strawberry, and its culture for market is found to be highly profitable. The New-Hudson is a seedling variety raised from the one here described.

CHARLOTTE—*Hort. Trans. Lind.*
Princess Charlotte's Strawberry.

This fruit is of medium size and round form, hairy, and of a purplish red hue; the flesh scarlet, firm, and high flavored. It is a very moderate bearer, but ripens early.

(From the Genesee Farmer.)

AMERICAN GRAPES.

Having in our last number given a list of American Grapes which we considered most profitable for cultivation, we will give a short description of each, the better to enable new beginners to determine when they have procured the intended variety, anticipating that there are many who are wishing to commence the cultivation of grapes who have not had it in their power to become acquainted with the different varieties—neither the peculiar qualities which render one variety more valuable than another.

As the term *native* is now made use of to distinguish indigenous from foreign varieties of grapes, we fear many people will be led into an error which may prove injurious to the increase of vineyards, more especially those who emigrated from those parts of New England where the grape grows abundantly in an uncultivated state, and who may be led to suppose that the common fox grapes, of different varieties, are the ones meant by the term *native*. To avoid this, we will refer to the different qualities most common to the fox grape, and also those desirable in grapes for cultivation.

The common fox grapes of New England are of a large size, varying in color from green to black; the most common are green changing to a horn color, pale claret and dark purple, or approaching to black. The skin of the most of them is thick, and lined with a soft pulpy substance, which is rather unpleasant to the taste, for which reason, when those grapes are eat,

their skins are rejected. Within this skin is contained a tough pulpy substance in which the seeds are enveloped; and although the juice upon the outside of this pulp is rich and pleasant, within it is, in most varieties, very sour, from which circumstance, the pulp is by most people swallowed whole. Now the desideratum with American or native grapes, is to procure those which have thin skins, and free from the unpleasant soft pulp attached to them; the inner pulp of which is tender, and replete with rich and pleasant juice, allowing the fruit to be eat without rejecting the skins. It is also desirable that vines should be good growers, and productive, with the fruit hanging loose upon the clusters, which should be of good size. As a general rule with the fox grapes, those of a green color are most free from acidity, those of a claret or cinnamon color next, and those of a dark purple or black color, most sour. It is not certain that those grapes which are sweetest to the taste are best for wine; but, on the contrary, those most esteemed for wine in Europe are generally rather sour, and some of them so much so as to be unfit for the table. We do not pretend that the list which we have given, or the four native varieties mentioned in our last, are the best that can be found or produced in America, but we recommend them as possessing more of the desirable qualities than any other that have become so generally known; and will, if properly attended to, give large crops of fair fruit, both for the table and for wine. Those who are unacquainted with them, and yet acquainted with the fox grapes of the eastern states, may depend upon their being superior to those commonly found about the brooks and swamps, and always should be preferred both for the table and for wine.

Isabella Grape. This grape, until within a short time, has been considered as a native of South Carolina, and supposed to have been introduced into our state by Mrs. Isabella Gibbs, and brought into general notice by Mr. Prince, who discovered it in the garden of Mrs. Gibbs, in 1816; but recent observations go far to show that the same grape was cultivated before the time mentioned; but that it is a native grape, and received its notoriety from Mr. Prince, we think few will deny, and all must honor his judgment in placing it among the best of our native varieties. The vine is a hardy one, withstanding the most severe winters in the United States, rank in growth, and very productive. Some vines in this village of three years' growth, produced the last season not less than three bushels of grapes. The clusters are of good size, the berries hanging rather loose upon the clusters, and of an oval form, and when fully ripe, of a dark purple color; the skin is thin, the pulp moderately tough, but is said to dissolve in the fermentation when used for wine. When fully ripe, it is preferable for the table to many of the European grapes.

The Alexander Grape. This grape has been known by several other names in different parts of the country, as the Schuykill, Muscadell, Cape of Good Hope grape, &c. and is said to have been discovered by a Mr. Alexander, gardener to one of the Penns. on the banks of the Schuykill. The berries are of a dark purple or black; sweet, and have a little of the fox flavor; is a great bearer, and the fruit is excellent both for the table and for wine.

Catawba. This grape was first brought into notice by Maj. John Adlum, now of the District of Columbia, who found it growing in the garden of Mrs. Schell at Clarksburg, Maryland, where, from its great productiveness, it attracted the attention of Maj. Adlum, who informed us that it was there called the Catawba grape, as he supposes from the circumstance that near to the place where it grows there was a public house, upon the sign of which was painted an Indian queen, which was called Catawba. The vine of this grape is a fine grower, the wood large with short joints, and lighter in color than the Isabella: it is a great bearer, the fruit is of a lilac color, hangs loosely on the bunches, which are of good size, and when ripe are fine for the table, having but little pulp or fox flavor. We

have drank wine which was made by Maj. Adlum from this grape in imitation of *Tokay*, which was one of the finest cordial wines we ever tasted.

Red Bland. This grape is said to have been brought into public notice by Col. Bland of Virginia, and is supposed to be a native of that state. It is known by a great variety of names, and its introduction has been attributed to a Mr. Mazzei, and many have declared it to be a foreign variety; but Mr. Prince has taken much pains to ascertain to whom the honor of introducing it into cultivation belonged, and has awarded it to Col. Bland, rejecting all other names, and attaching his cognomen to it. This fruit is produced in clusters of good size, the berries of which are of a pale red color, juicy and sweet, having very little pulp, skin thin, free from fox flavor, and is an excellent table fruit, and Mr. Prince observes it is "a wine grape of very superior order."

The above described varieties of grapes we think are such as are calculated for this climate, and the different uses of wine making, table, &c. and those who procure them need not fear being disappointed, as their several qualities have been tested and settled by men capable of deciding in such matters. There is also another grape which has been cultivated at York, Pennsylvania, with success, and of which we will subjoin Mr. Prince's description: it is called the *York Claret*.

"It differs from the Alexander in several respects; the vine is smaller in its parts though of a more flourishing appearance, the foliage is of a darker green, and it retains its verdure later in the season than any other vine; the bunches and berries are smaller than those of the Alexander, and the latter more closely set on the clusters, and the produce of the vine is more abundant. When perfectly ripe it is without a pulp, and very replete with sweet juice, which is nearly as dark as a Morello cherry. It is thought by the cultivators at York to agree better with the climate than any other, and the general opinion seems to be, that wine of a very superior quality may be made from it. When perfectly ripe, the fruit is as fine for the table as the better part of our native kinds, with the exception of the Catawba, Isabella, and one or two others." We have not seen the fruit of this kind ourselves, but from the above account have no hesitation in recommending it for culture.

(From the Hamilton Intelligencer.)

LIVE FENCES.

MR. EDITOR:

In fulfilment of the promise made last week, the following directions for setting and training a live fence, are submitted to farmers; accompanied with an earnest solicitude that some public spirited individuals amongst their number will reduce them to practice. These directions are mostly extracted from a letter written by Dr. Shurtleff to his son, published in the New England Farmer, vol. ix., page 200, and given as nearly in his own words, as that abbreviation, which was necessary to compress them within our limits, would admit.

1. **Materials for a hedge.**—The plants commonly used for a hedge, are the English white thorn, (*crataegus oxyacantha*), the purging buck thorn, (*romnus alaternus*), the three thorned acacia or honey locust, (*gleditsia triacanthos*), the red cedar (*Juniperus Virginiana*), crab apple (*pyrus malus*), &c. But I much prefer the American, Virginia or Washington thorn (*crataegus canadensis*).

2. **Season to set a hedge.**—In our climate a hedge should be set out in the spring, before the plants begin to vegetate; and every fibre of the roots should be taken up with them; and by no means be cut off.

3. **Age of the plants.**—The more age the plants have the better; (say under 7 years) as they are more hardy and have better roots. Loudon says three years old is certainly the youngest, that should be planted. N. e, honey locust or sweet briar plants, may be set out when one year old.

4. *Assort your plants.*—Let your quicks be assorted; the large, the small, and the different sizes of the intermediates. Set the largest on the poorest land, the smallest on the intermediate kind of land. In this way your hedge will grow evenly; but if you set the large and small plants promiscuously, the large will soon overtop the small, and leave your hedge full of gaps. Either before or after planting cut off the tops of the plants about an inch from the root or yellow part, leaving four buds or eyes.

5. *Spare Plants.*—Select a tenth or more of your best plants, and set in your Nursery, in wide rows, and at a distance from each other in the rows, that you may fill vacancies in your hedge should any occur.—Manure and hoe them, so as to keep them well ahead of your hedge, that when set in a gap, they may not be smaller than their neighbors.

6. *Preparation of the soil.*—Let your land be well prepared, a strip eight feet wide, deep ploughed, well harrowed, raked over and cleared of all sward, sods and weeds. If any part of the land is poor, harrow in well rotted manure; then plough a trench through the middle 8 or 10 inches deep, one side perpendicular, and the other with a gentle slope, or angle of thirty degrees.

7. *Mode of planting.*—Your land and plants thus prepared, lay your plants on the inclined plane or slope, in a straight line, 9 inches apart, (more or less,) and as deep, at least, as they were in the nursery; then with a hoe carefully draw on the mellow earth to cover the roots, and press and pat it down well around them. It will be best not to fill the trench completely, but to leave it a little concave above the roots, that the moisture may be retained, and that you may be able to draw a few inches of pulverized earth annually around the roots, to make them throw out new shoots, and this without raising the surface so much, as to lose the moisture. By sloping your plants, small roots strike down from the old top roots, and you have a great number of new roots to nourish the plants and keep them firm. By cutting off the top of this plant, you will have 3 or 4 strong upright young shoots, starting from the surface of the ground, instead of a solitary old one.

8. *Hoeing and clearing.*—Let your hedge be well hoed and kept free from grass and weeds. A little fresh earth ought to be drawn around the roots at each hoeing.

9. *Pruning.*—Prune either early in the spring, about midsummer, or late in the fall. When you planted your hedge, you preserved every root, but you cut off the top leaving but four buds, these will produce you 4 large stems as supports. These stems must not be pruned or trimmed, on any condition until they are 5 or 6 feet high: then you may trim them down to the height you mean to keep your hedge. But the side branches should be gently trimmed every year, leaving those near the ground so as to have them broad at the bottom and tapering gradually towards the tops, in the form of a pyramid, or young cedar, or pitch pine.

This trimming of the side branches will make them send out more new shoots from those extremities, until, by repeated trimmings, every crevice from top to bottom of your hedge will be filled up; whilst the unpruned, upright shoots will ascend with strength and support the hedge.

10. *Pruning instruments.*—Trimming is usually performed with a "bill hook," an instrument resembling a broad sword, except that it is more crooked at the point, and has the edge on the other side. It is sometimes performed with pruning shears. In all your cuttings cut up if you wish to benefit your hedge, cut down if you wish to ruin it.

11. *Its ellaceous observations.*—These directions apply particularly to thorn hedges. Our bottoms would produce the finest live fences. Forester plants planted in a hedge row make a beautiful appearance, but they shade and injure the fence. Honey locust would grow too large. Cattle and sheep must not

bruise your plants before they arrive at maturity; therefore begin the work while you have old fences to protect them.

12. *Errors and Mistakes.*—In my first hedge, my land was a tough sward, not well prepared, and I set my large plants, that were two years old perpendicular; for my second hedge, set out two years after, the land was well prepared and I set my yearling plants sloping. The second is now ahead of the first. I lost one year's growth of my hedge by planting two rows of potatoes on each side of it, the tops of which grew so luxuriantly that they completely shaded the hedge.

My grand error was in cropping the tops once, and generally twice a year, with the expectation of making the hedge thicker at the bottom, and more impervious throughout; but it had a contrary effect.—The oftener I cropped the top the more weak shoots came out, where cut, shading and ruining those below. The top of the hedge became wide and bushy, and the bottom weak and destitute of branches. Those which I did not crop have large firm stems and have thrown out large strong suckers from their roots making a fence impenetrable to an enraged horned bull. I ought not to have trimmed the main stems, after the first pruning, until they were 5 or 9 feet high.

13. *Recapitulation.*—Prepare your land in the best manner; use suitable plants of thrifty growth; assort and accommodate to the different kinds of soil; preserve all the roots, but crop the tops leaving only four buds; keep a few in your nursery; set them a little sloping and leave the ground a little concave about the roots; keep them clear of grass and weeds; and a little earth at each hoeing; trim the side branches carefully and leave the main stems to nature, till they are six feet high, then crop off the top to the height you mean to have your hedge. It will look like a wedge with the sharp end upwards, and will exhibit a most beautiful appearance.

In eight years my second hedge was a sufficient fence. By following the above directions, a better hedge can be raised in half the time. RURICOLA.

(From the New England Farmer.)

GRAFTING FRUIT TREES.

Portsmouth, N. H. March, 1832.

MR. EDITOR—I strongly suspect that it is not generally known that a great variety of trees, even the walnut or shag-bark, may be successfully grafted. The best kinds of the plum tree will succeed well on the common plum stock. And although the pear will grow grafted upon the thorn, and the quince upon the pear, yet as a general rule, we think that they will flourish best upon their kindred stocks. The peach is an exception. It is the general practice in England, to graft the peach upon the plum stock; such ought to be the practice here—good reasons may be assigned. The plum tree is more hardy than the peach, will live twenty or thirty years, and is not so liable to be destroyed by worms at the root.—It is said that peach trees grafted upon plum stocks, will flourish thirty years, and are not so easily affected by our severe winters. If the latter remark be correct, and for the other reasons assigned, I advise all farmers disposed to cultivate this delicious fruit, to insert the peach scion upon the plum stock; some prefer budding—the experiment, should it fail, would cost but little. Peach trees ought not to be pruned at all, after the tree is well formed, or suffered to grow very high. Ashes round the roots are useful as manure, and to guard against worms. In this country I believe fruit trees generally are supposed to grow too high; they are more liable to be injured by severe and cold winds. The tops should be bent down and confined, or cut off, while the trees are young. This, I understand, is the common practice in the fruit gardens of England. WILLIAM CROCKETT.

(From the New England Farmer.)

DAMAGE TO FRUIT TREES.

Salem, March 12, 1832.

MR. FESSENDEN—I think it very desirable for the public to ascertain, from New Jersey and the middle states, whether the effects of the past winter and autumn, have been so severe on fruit trees there as in this section of the Union.

The damage done to the pear, cherry, peach and apple, (more particularly young trees) is inconceivable, in every part of New England, as far as can be learned. Many young trees that appear to be green and healthy at first sight, are found, on removing the bark with a penknife, to be black and dead. I lately examined a young orchard of forty trees, every one of which was injured more or less, many utterly ruined, with the exception of two or three native cherry trees, that had never been budded. It is desirable to know whether native fruits in general have escaped, more than foreign varieties. An intelligent farmer in a town in Middlesex county, where thousands of barrels of winter apples are frequently raised in a season, informed me, he feared they should not produce a barrel this year, nor a pint of cherries. As it will be a long time before the trees can recover from this shock, we may calculate on a great scarcity of fruit, for ten years to come. I hope your correspondents in various parts of the United States, will furnish information of the state of orchards in their vicinity, through the New England Farmer. A. B.

(From the Genesee Farmer.)

ON THE BEST SHRUBS FOR HEDGES.

Philadelphia, 25th Feb'y. 1832.

An immense waste and cost of wood and labor is bestowed in the United States on Fences, amounting yearly to nearly \$15,000,000! including repairs. Our system of fencing originated once in the superabundance of wood, but it has spoiled the rural scenery of America, and now is become too precarious and expensive. It is absolutely necessary to begin in all the improving farming districts, where the land is good and stones as well as wood rather scarce, a different mode of enclosing fields, such as hedges, now more confined to a few districts of the middle states. Hedges are cheaper and more durable than fences, handsomer, and may even be made profitable. During many years travel in fifteen states, I have studied the subject, and shall give in a few words the results of my inquiries.

Hedges may be divided into Field hedges and Garden hedges, and each of these into four series. 1. Thorny evergreens. 2. Thorny deciduous. 3. Thornless evergreens. 4. Thorny deciduous. Their value is in the order stated; but some kinds are besides more valuable by longevity, hardness, beauty, facility of growth and a profitable crop of leaves or fruit.

FIRST SERIES. Thorny Evergreen Shrubs.

1. JUNIFERUS. Juniper bush and Cedars. We have three wild species, one of which peculiar to New-York and Canada, *J. depressa*, Raf. 1817, forms an impenetrable thorny bush, like the European Juniper. All are hardy, grow well from berries and slips, bear trimming in any way, last for ages or for ever, with care; are unquarried by any animal or insect; the leaves and berries are medical. Excellent for garden fences, as good as a wall. I have seen at Germantown such a hedge around the garden of Dr. Belton: it is four feet high, nearly two feet thick, cut square all around, and only twenty years old. I put this first in value.

2. ILEX, or Holly, comes next. Nearly as good valuable and profitable, but of slower growth, and not filling so well below, nor bearing the scissors. Medical also; bark and berries have many uses. See medical Flora of U. S. N. A. p. 53.

SECOND SERIES. *Thornless Evergreen Shrubs.*

3. *THUYA* or Arborvitæ. Very pretty garden hedges. Grows with the utmost facility from cuttings, which seldom happens with evergreens. Bears trimming, but its natural fan-like growth is too pretty to be spoiled, can be set as crowded as we like. Neither cattle nor insect will touch it.—Lasts a century.

4. *BUXUS* or Hox. Is too well known for comment, similar to the last, but not so pretty, too slow for hedges, rather used for borders.

5. *LIGUSTRUM* or Privet. Similar to Box, better for hedges, but liable to insects.

6. *ALNUS* or Spruce and Firs. These huge trees may be compelled to form fine spreading hedges by cutting their upper shoots, and allowing them to grow sideways. They would last long, and be very handsome, mixed with Roses and Briars to entangle them; but they are delicate and liable to injuries: they thrive best in Canada and the coldest regions.

THIRD SERIES. *Thorny deciduous Shrubs.*

7. *MALUS CORONARIA*, Crab Apple. Excellent, hardy; beautiful sweet blossoms, good fruit for preserves. Would make delightful field fences with some Briar fillings. Bears trimming and lives 200 years.

8. *TOXILYN*, Raf. 1817. Bow wood or Ayae of Arkansas. Lately introduced as far north as Pennsylvania, grows well from cuttings as quick as a willow, very hardy. Excellent thorny hedges. Fine large fruit. Wood dies yellow like Fostic.

9. *GLEDITSIA* or Honey locust. Large tree, bearing cutting and to be kept in hedge form, makes a hedge in three years. The most thorny variety is the best. Col. Mead of Kentucky made fence of it, planted in a standing position. The cattle may bruise the leaves, but never break through. Leaves good fodder: pods much relished by sheep in the winter.

10. *CRATEGUS* or Thorn. The fine hedges of Chester County in Pennsylvania, and Newcastle County in Delaware, of 100 years' standing, and forming a peculiar rural beauty, are mostly made of *Cr. crusgalli* or the American Cockspur Thorn. Excellent, very lasting and easily kept. The *Cr. oxyacantha* or European Thorn is more precarious and never so bushy or large with us. Many other kinds of wild Thorn will do as well: the *Cr. coccinea* above all.

11. *PRUNUS SPINOSA*. Thorny Sloe. Not uncommon in Pennsylvania but precarious, because not native.

12. *BERBERIS* Barberry. Very good hedges, but require some care, ought to be mixed with other Shrubs or Briars, many uses.

13. *RHAMNUS*. Buckthorn. Native, similar to the last, demand care. Medial.

14. *XANTHOXYLON*. Prickly Ash. Forms a thin hedge; but may be mixed. Very useful medical shrub. See my med. flora N. A. Sp. 96.

15. *ROSA*. All the thorny Roses form beautiful hedges either alone or to fill up. Delightful for gardens, and would make the fields to bloom in beauty.

16. *RUBUS*. Blackberry. As good as Roses, and affording a fruit: much used for filling and entangling other hedges. Raspberries and Brambles equally good.

17. *SMILAX*. Briars. Excellent prickly vines to entangle mixed hedges. Roots medical, very useful.

FOURTH SERIES. *Thornless deciduous Shrubs.*

18. *ULMUS*. Elm. May be trained to hedges; the invaluable *U. fruticosa* or Slippy Elm ought to preferred.

19. *OSTREA*. Hornbeam. Better still, forms a thick hedge.

20. *MORUS*. Mulberry. I left for the last this most valuable tree. It bears cutting, and is often raised in silk countries as a shrub and hedge, to collect the leaves easier. Grows with the utmost facility, lasting sixty years at least. It may be entangled with Roses, Briars and Brambles, but better still by *Grape Vines* as in Italy. It will give a profitable crop of

leaves for Silk, and berries to eat. As a mere support of Vines, it saves the cost of poles and much care. A hedge of white or red mulberries would repay tenfold the cost of sowing or planting. Let us hope that the general introduction and production of Grapes and Wine, Mulberries and Silk, will go hand in hand throughout our country, which will both furnish two great staples of Agriculture, as invaluable as the cotton and sugar of the southern states, to gratify and enrich our farmers.

C. S. RAFFINQUE,
Prof. of Hist. and Nat. Science.

(From the Gardener's Magazine.)

CAUSE AND CURE OF THE AMERICAN BLIGHT; IN ANSWER TO JUDGE BUEL.

Bungay, Sept. 20, 1831.

SIR—Your respectable correspondent, Jesse Buel, Esq. treating of trees and their diseases, solicits information respecting the causes of these diseases and their cures. He says, "We have lost many of our pear trees, by what is termed the blight." Now, what our English gardeners describe as the "American blight," and which here particularly affects apple and pear trees, is evidently the larvæ of some insect, enveloped in a substance like white cotton; but which larvæ, I suspect, are the consequence and not the cause of the disease he writes upon; that is, I believe the blight never fixes, except upon parts of the tree where the sap has exuded through or under the bark, or where the tree has been cut or bruised, and has put on the appearance he describes, viz. 'the bark becomes dead in irregular blotches, contracts, and ultimately separates from the wood.' He says, farther, anything, you can offer on the subject of the preceding remarks, will be particularly interesting to your American readers.' This leads me to mention, that about twenty-five years since, I planted on the east border of my garden, which was newly-raised land, a row of apple and pear trees, chiefly the former, and found that they all soon became affected with the disease above described. 'The subsoil being, particularly in winter, a morass, I planted the trees as high as possible; but some plants of the same kind and from the same nursery, planted in another and drier situation, being exempt from the disease, I considered that the other trees had become infected, from the absorption of the roots of too much moisture. To obviate this, I planted between three or four feet of them a row of willow stakes, which soon became bushes and now are trees. I could in a short time trace the roots of these willows, completely under the fruit trees, and as thick, generally, as a mat. I began, consequently, to fear that they would ultimately destroy them; but I was agreeably surprised by finding, from the period the roots became intermixed with those of the apple and pear trees, that this disease in the fruit trees gradually and I may say entirely disappeared; and for the last twenty years they have borne plenty of fine fruit. Now, as Judge Buel considers his trees to be thus diseased, from the elaborated sap, and to be most prejudiced in wet seasons, I think I am justified in supposing we both allude to the same disease, and I shall be happy if the remedial hint here given, should prove successful in America.

ROBERT CANELL, M.D.

BARKING THE STEMS OF FRUIT TREES.

A writer for the Gardener's Magazine says, in substance, that his gardener in Holland, at the winter pruning, given in that country in February, cuts off with his common pruning-knife all the outer bark, down to the liber, of his apple and pear trees, and vines, above eight or ten years old; not so deeply, however, with the young as with the old trees. 'This man's practice is said to have been always successful in producing larger and better flavored fruit, than can be obtained without that process.'

RURAL ECONOMY.

(From the New York Farmer.)

DISEASES OF SHEEP.

I hear complaints of great mortality among sheep, particularly among those which are in the best condition, and late dropped lambs of last year, without satisfactory cause being assigned for such mortality. I beg leave, therefore, to suggest the cause, and to recommend a remedy for the evil.

The winter has been uncommonly severe, the ground almost constantly covered with snow, and sheep have, consequently, been precluded their ordinary exercise, their usual supply of green food, and debarred also from access to the ground. They are much in the condition of a ship's crew who have subsisted, in a long voyage, wholly upon salted provisions. I will not say that earths constitute a food for sheep; yet I am satisfied, that, in the absence, at least of green food, in a long winter, they are essential to their health. I will not attempt to explain their physical effects; but it is evident they take them in, in considerable quantities, from the analysis of their dung, by Kirwan, who found in 105 parts, 37 parts lime, sand and clay, while cow dung gave but 13, and horse dung 16.

I am told on credible authority, that a gentleman, who was losing his sheep, without apparent cause, had occasion to use some clay about his house in the winter, and observing that his sickly flock ate it with avidity, he caused a load to be placed in their yard, much of which was devoured, and his sheep speedily recovered.

As a cure, therefore, I would recommend clay to be placed in the sheep yard, which can, at worst, do no harm, as the animals will not eat it unless prompted by instinct; or when it is practicable, the boughs or branches of resinous trees, as the pine and hemlock, may be given to the flock in limited quantities. Roots of any edible kind, will also be highly serviceable. As a preventive in future, I advise sheep-farmers to raise and lay in, a good stock of ruta baga or other turnips, which are not only the healthiest, but cheapest food for the winter consumption of sheep.

B.

March 1, 1832.

(From the New York Farmer.)

TWIN CALVES.

MR. EDITOR:

Peekskill, Feb. 25.

I noticed in your paper, some time since, the enquiry, "whether twin heifers would breed." I have a pair of twin heifers which will be two years old in the spring. One of the heifers is evidently with calf, the other is not but I have no reason to doubt but that she will breed, and I am keeping both with the full belief, that they will make very fine milk cows, as they are from a very superior cow of the ordinary breed of the country.

I also observed Mr. Brentnall's letter in your last paper. The only instance of twin male and female calves that has come under my personal observation, is a pair owned by Mr. Todd, a neighbor of mine. He worked these twins together for a number of years in the ordinary manner of working oxen. The female was, in size and shape, not much unlike an ox, and of equal strength. She never bled or showed the least inclination that way. Yours, &c.

WM. NELSON.

(From the New York Farmer.)

RECIPE.

I find this recipe in Monk's Agricultural Dictionary, and consider it worth preserving:—

CATTLE.—When choked with turnips, &c., if salt and water will not cure them, pour down a horn-full of salt and melted grease. This he never (except once) found fail.

W. A. H. B.

THE FARMER.

BALTIMORE, FRIDAY, APRIL 13, 1892.

A PROLIFIC SHEEP.—Mr. William Nottingham, Sen. near Eastville, Northampton county, Va. has a ewe of which he gives us the following account. Nanny (the ewe), is five years old last February.—Yeanned in Feb. 1827; had two lambs, in Feb. 1828; had four lambs, in Feb. 1829; had three lambs, November 1st, 1829; had three lambs, Feb. 1831; had three lambs March 10, 1832. *Fifteen lambs in four years!* We are not informed whether all, or how many of these lambs lived; nor of what breed she is. Her daughter, and it is believed her first, had a lamb 17th of March, then 13 months and 10 days old.

THE WEATHER.—The very severe frost for several nights past, it is feared, has destroyed what little fruit might have escaped the severities of the winter. For a week past we have had ice a quarter of an inch thick every morning, on still water; and the weather has been dry and very windy.—This, of course, is stated for the information of distant readers—those nearer by have had other hints as to the temperature of the weather.

We should be glad to receive information of the state of the weather from distant quarters of the Union; especially the range of the thermometer from the 1st of November, 1831, to the 1st of April, 1832.

We are much obliged by the following communication. If a similar table could be had from the middle of New England, Pennsylvania and Virginia, we should be able to judge pretty accurately of the comparative temperature of our various climates.

*Retreat, Laurens Co., Georgia, }
February 7, 1832.*

MR. SMITH:

From the 1st of January, 1817, to the 31st of December, 1830, inclusive, I made, or caused to be made, observations on the heat of the weather, by Fahrenheit's thermometer: the first three years may not have been made with sufficient accuracy to be depended on; but the succeeding eleven years the heat was observed with as much care, as in all probability, it may ever be done.

The latitude of the place, 32 deg. 27 min. North; elevation above the sea is unknown; country, open piney woods: thermometer suspended about six feet from the ground, in a free circulation of air, and not within the influence of the direct or reflected rays of the sun. The times of observation were—about sunrise, when the heat was least, and between noon and 5 o'clock, P. M. at whatever time the heat was greatest in every day. The following table will show the results.

Year.	Medium Temperature.	Days of greatest Cold.	Days of greatest Heat.
1820 65.25	Jan'y. 13.	21.00	July 22. 92.00
1821 64.72	" 8.	20.00	Aug. 3. 93.00
1822 65.15	" 5.	16.25	June 12. 95.00
1823 63.07	Feb'y 16.	9.75	July 19. 92.50
1824 64.36	Jan'y 20.	20.00	" 1.01.00
1825 64.65	Feb'y 4.	16.50	Aug. 12. 93.50
1826 66.03	Dec'r 23.	13.50	July 17. 96.00
1827 65.53	Jan'y 20.	10.00	" 24. 93.00
1828 66.57	April 7.	26.00	June 7. 95.75
1829 63.18	Jan'y 11.	12.00	" 18. 96.50
1830 64.24	Dec'r 22.	13.00	Aug. 25. 99.00
Medium, 64.59		16.18	95.66

The table shows the medium temperature of each year, with the extremes of cold and heat: the first footed column shows the medium temperature of 11

years to be 64 degrees and 89 hundredths; the second footed column shows that we may expect a degree of cold equal to 16 degrees and 18 hundredths, and the third and last footed column shows that we may expect the heat to be 95 degrees and 66 hundredths of a degree. It is remarkable that the coldest morning in 1828 was on the 7th of April, when most of green shoots of trees were killed; and the most intense heat in that year was on the 7th of June.

We have had the coldest weather in December and January that is remembered in this part of the country, which continued till the first of this month. January 26, heat was 10 degrees; 27, 13; 29, 12 degrees. It is now warm spring weather.

Respectfully, your obedient servant,

THOMAS M'CALL.

(From the New England Farmer.)

ANTS.

The following are among the methods of destroying these destructive insects.

Forsyth says, "you may destroy many of them by mixing quick lime with soot, and laying it along their roads, where you see them thickest; but where you can come at their nests, the best way is to put a piece of quick lime into them and pour as much water over the lime as will slake it, the heat of which will destroy them—when you have poured in the water, cover the lime with a turf or a little earth, which will render it more effectual by confining the heat. You may slake the lime with a mixture of urine and soapsuds, which will render it still more effectual."

If the walls of an apartment are washed with a painter's brush, dipped in a solution made of four ounces of corrosive sublimate in two gallons of water, both the ant and the red spider will be destroyed.

When you find their nests or other collections of them near home, you may pour hot water on them. When a farmer manures his land, if he uses ashes, lime, or sea-sand, he may be sure of not being annoyed by ants.

An English publication asserts, "Ants that frequent houses and gardens, may be destroyed by taking flour of brimstone half a pound, and potash four ounces; set them in an iron or earthen pan over a fire, till dissolved and united; afterwards beat them to a powder, and infuse a little of this powder in water; and wherever you sprinkle it the ants will die or flee the place."

Likewise, "corrosive sublimate mixed well with sugar, has proved a mortal poison to them, and is the most effectual way of destroying these insects."

Another remedy is as follows:—Make a strong decoction of tobacco and the tender shoots of elder, by pouring boiling water on them; then sprinkle fruit trees infested with ants or other insects, with this decoction, cold, twice a week, for two or three weeks, with a small brush; which will effectually destroy the insects and preserve the fruit and leaves.

To preserve dishes of meat in cupboards, &c., against ants, it has been recommended to take a wine glass well cleaned and place it in your cupboard or safe, upside down, and put the dish or plate which contains your meat, on it. It may be here balanced with the greatest safety, and it is said, will be preserved from ants, provided care is taken that the meat and dish be free from them when placed in that situation.

Ants are unjustly accused of damaging fruit trees, and are incorrectly supposed to be authors of mischief accruing from the depredations of aphides, alias plant lice, alias piceeros, alias *vine fritters*. The excrements of these last mentioned insects are sweet, and compose one kind of honey dew, called *suffusio melita*. Ants ramble over trees which are infested with these insects, for the purpose of feeding on this sweet substance, and are mistaken for the cause of honey dew, and the disease of the tree of which honey dew is a symptom. The aphides, too, are often but erro-

neously supposed to be the young progeny of ants, when in fact there is no affinity between these two species of insects. Still, as ants feed on fruits, it may be expedient to extirpate them by some of the above mentioned methods.

(From the Genesee Farmer.)

NEW ENGLAND FARMERS.

Many thousand farmers in New England, rear large and respectable families, pay all their debts and taxes promptly, and live independently, well clothed, and comfortably housed and provided for, and lay up money—on farms of fifty acres. The idea is, that these people labor severely. This is a great mistake. They have much, because they waste no time. With them, there is "a place for everything, and everything in its place." Their horses and cattle, tools and implements, are attended to with clock like regularity—nothing is put off till to-morrow which can be done to-day. Economy is wealth, and system affords ease. These men are seldom in a hurry, except in harvest time. And in long winter evenings or severe weather, which forbids employment out of doors, one makes corn-brooms; another shoes, a third is a carpenter, cooper, or tailor; and one woman spins; another weaves; a third plait "Leghorn bonnets;" and a fourth makes lace. Little children, and the aged and infirm, knit stockings! And the families thus occupied are among the most healthy and cheerful in the world. It is easy with them to reduce their wishes to their means, if inconvenient or imprudent to extend their means to their wishes. These are the "sort of people" who fought at Concord and at Bunker's hill, Bennington and Saratoga. Two hundred yankee freeholders were on board the frigate Constitution, when the flag of the enemy descended in homage to her power.

FARM SCHOOL.

A large and highly respectable meeting has been held in Boston, at which it was resolved to raise by subscription \$50,000 for the establishment of a farm school, and \$3,000 annually to sustain it. A committee was also appointed to carry the resolutions into effect, and to petition for an act of incorporation, if they think it necessary.

Light arable soils may be too much pulverized.—A writer for the Gardener's Magazine says, "I quite agree (from experience) with Mr. Wallace (vol. vii. p. 36.), in thinking light soil sometimes injured, rather than improved, by too much digging, &c. I have for some years adopted the plan, of sowing August turnips on ground hoed and raked, in preference to digging; provided the ground be in good heart and not too much bound. I find the seed vegetates much sooner and is less infested with the fly, and, as the plants grow faster and bid defiance to the fly, they make less top but better roots.

A BROKEN HEART.—MATERNAL AFFECTION.—A few days ago, while a young gilt pig, the property of Mr. John Riley, of Brinsley, was being removed from the sty in which it was with its mother, the sow was so much affected by her young one being caught, and having a cord tied round its leg, that she set up a tremendous scream, and dropped down dead immediately after it was taken away! It was found that the heart had swollen to double its natural size, and burst.—*[Stanford News.*

FOREIGN MARKETS.

LONDON CORN EXCHANGE, Feb. 29.—We have nothing whatever doing in any article of Grain, nor have we any fresh arrivals worth speaking of. We have a very thin attendance, and the various articles of grain are nominally as on last market.

AGRICULTURE.

SYSTEM OF FARMING.

MR. SMITH: Talbot Co., Md., March 26, 1832.

I have been a constant reader of the American Farmer from the first number up to the last; have seen many things of but little value to the farmer, but take pleasure in saying it has contained much valuable information, and has stimulated him to many improvements. Although every person is not gifted with talents for writing, still I conceive it to be the duty of every individual as far as practicable to aid and assist in the promotion of agriculture, I have, therefore, taken the liberty of laying before your readers four systems of farming, which have been pursued by me upwards of twenty years, with some small deviations suggested by practice. In consequence of a piece which appeared in Vol. 10. No. 46, over my present signature, some polite queries were put to me in Vol. 10. No. 48, by a subscriber living in Garden Vale, Fauquier County, Va., relative to my manuring, which were answered in Vol. 11. No. 2, although unknown to me; should this meet his eye, I should be pleased to hear his opinion of the systems now laid down. I commenced farming in 1800, totally unacquainted with it, having been a resident of Philadelphia in my youthful days; but having made up my mind to cultivate the earth, and remain in the peaceful shades of retirement, I thought it advisable to lay down some systematic plan whereby I might improve my "worn out land," which was commenced in 1807; viz: six fields. In the spring of 1807, seed No. 1, in oats and clover; same spring plant No. 2, in Indian corn; autumn 1807, seed No. 2 in wheat; and fallow No. 3 for wheat; spring 1808, seed No. 4 in oats and clover, same spring plant No. 5 in Indian corn, in June 1808 cut a crop of clover from No. 1; and in September, rippe a crop of seed; autumn 1808 seed No. 5 in wheat, viz: (corn field) and fallow for wheat No. 6; spring 1809, seed No. 2, in oats and clover, same spring plant Indian corn in No. 3; (June 1809 cut hay from No. 4; and September rippe a crop of seed); autumn 1809, seed wheat in No. 3; viz: corn ground, and fallow for wheat, No. 1. Having now commenced the system let me particularly request No. 1, not be grazed or a clover cut from it during the spring or summer of 1809—burr it to grow without restraint, and in fall, September 20, commence ploughing down the clover from six to eight inches deep, with the grass neatly turned under, the sod well pressed down by a heavy roller, then seed your wheat, and harrow it in the same way it was ploughed, (provided your soil will admit of having it harrowed in,) if not, plough it in shoal, so as not to disturb the sod; clover well turned in will improve your land, and act as a nutriment to the wheat. Spring 1810, seed oats and clover No. 5, and same spring plant corn on No. 6. Then proceed as described above, from a regular rotation, agreeably to the annexed table, you will cultivate corn in each field once in six years, and oats the same, and both crops are on wheat stubble, (from which I think your corn crops are more certain)—a crop of wheat from some of the fields every two years, and others every four years, putting two fields in wheat annually, causes your wheat crops to deviate, but you have the whole of your farm under cultivation, and take from each apartment a profitable crop except one, from which you turn in the clover, which should be considered the most lucrative. There were two reasons why I pursued the culture of oats, first, because I conceived one acre of oats could be cultivated for half the price an acre of corn, and twice the number of bushels would be produced, and two gallons of oats are more than equal to a gallon of corn, which leaves a balance of one hundred per cent. in favor of the oats. Secondly, because I entertained an idea that clover seed will take root and flourish more rapidly when deposited on ground fresh and

well broken, than on wheat where the ground is hard, and subject to remain several weeks on the ground before it sinks in.

It may be asked what will be done for pasture? In answer, I will say, let your stock be confined in a large and dry farm yard, into which you should draw fifty cart loads of litter, ditch bank, marl, or good rich dirt, per week; there feed your stock, for which you will have a sufficient quantity of straw and hay, (provided you are fortunate) until the green clover is ready to cut, the great quantity of manure will more than compensate for the extra expense of feeding, and your horses will perform better and do more hard labor when stabled and fed on dry food, and escape the casualties which are incident to horses in the spring—but you will have pasture on the wheat fields after harvest.

No. 1.—Spring 1807, oats and clover; June 1808 cut clover; fall gather seed; autumn 1809, fallow wheat on clover, July 1810 pasture; spring 1811 corn; autumn 1811 wheat; July 1812 pasture; spring 1813 oats and clover; June 1814 cut clover.

No. 3.—Autumn 1807 wheat; July 1808 pasture; spring 1809 corn; fall 1809 wheat; July 1810 pasture; spring 1811 oats and clover; June 1812 cut clover; fall gather seed; fall 1813 wheat on clover; July 1814 pasture; spring 1815 corn.

No. 5.—Spring 1808 corn; fall 1808 wheat, July 1809 pasture; spring 1810 oats and clover; June 1811 cut clover; and fall gather seed; autumn 1812 wheat on clover; July 1813 pasture; spring 1814 corn; fall 1814 wheat.

No. 2.—Spring 1807 corn; autumn 1807 wheat; July 1808 pasture, spring 1809 oats and clover; June 1810 cut clover, and fall ripple seed; autumn 1811 wheat on clover; July 1812 pasture; spring 1813 corn; autumn 1813 wheat; July 1814 pasture; spring 1815 oats and clover.

No. 4.—Spring 1808 oats and clover; June 1809 cut clover; fall secure seed; fall 1810 wheat on clover; July 1811 pasture; spring 1812 corn; autumn 1812 wheat; July 1813 pasture, spring 1814 oats and clover.

No. 6.—Fall 1808 wheat; July 1809 pasture; spring 1810 corn; fall 1810 wheat; July 1811 pasture; spring 1812 oats and clover; June 1813 cut clover; fall procure seed; autumn 1814 wheat on clover.

This system I pursue for many years (with the exception of soiling my cattle) and was much pleased with it, and am well convinced it improved my land from ploughing the clover, but experience taught me to believe it filled my ground with weeds and garlic, which, in my estimation proceeded from the ground not being rich sufficient to produce a heavy crop of clover, by which means those obnoxious weeds would have been subdued—at that time I had not discovered my marl banks, consequently was not able to procure a sufficient quantity of manure to cover the oat field where I would recommend the whole force of manure to be applied, therefore, abandoned it. It therefore, became requisite to resort to some other mode, and having discovered my marl and its utility, I resolved to put my farm into seven fields, annually cultivating two in Indian corn—putting one of said fields in wheat, and breaking one for fallow, leaving the other stock field vacant on which I seed wheat the fall following, with clover in the spring—but during the preceding winter and summer apply all my manuring power on it, with marl, &c. &c., taking care to have all my winter farm-yard manure converted into compost in the spring by drawing it in the same field on the head lands, first ploughing a space of twelve or fifteen feet wide to deposit it on, then carefully covering it with ditch banks, and the scowering of ditches to protect it from the sun, where it remains until the fall, when the field is well prepared for wheat, (the marl which was drawn during summer and winter being first ploughed in) the compost is then put out and ploughed in with the wheat, which is a re-manur-

ing, and gives the marl an active motion—on this field clover is seeded in the spring. By this rotation of crops you will always break one clover field for corn, and the other on wheat stubble, after you get under full operation, and have the whole of your farm under a good crop, except one field; viz: two in corn, two in wheat, two in clover, (one to cut and one to pasture) and one vacant; viz: the stock field, as will be made more evident by the following table:—

No. 1.—Spring 1815 corn; fall 1815 wheat; spring 1817 corn; fall 1818 fallow wheat; and clover; spring 1822 corn; fall 1822 wheat; spring 1824 corn; fall 1825 fallow, wheat and clover; spring 1829 corn, fall 1829 wheat.

No. 2.—Spring 1815 corn; fall 1816 fallow and clover; spring 1820 corn; fall 1820 wheat; spring 1822 corn; fall 1823 fallow, wheat and clover; spring 1827 corn; fall 1827 wheat; spring 1829 corn.

No. 3.—Fall 1815 fallow; spring 1817 corn; fall 1817 wheat; spring 1819 corn; fall 1820 fallow, wheat, and clover; spring 1824 corn; fall 1824 wheat; spring 1826 corn; fall 1827 fallow wheat, and clover.

No. 4.—spring 1816 corn; fall 1816 wheat; spring 1818 corn; fall 1819 fallow wheat and clover; spring 1823 corn; fall 1823 wheat; spring 1825 corn; fall 1826 fallow wheat and clover.

No. 5.—spring 1816 corn; fall 1817 fallow wheat and clover; spring 1821 corn; fall 1821 wheat; spring 1823 corn; fall 1824 fallow and clover; spring 1828 corn; fall 1828 wheat.

No. 6.—spring 1818 corn; fall 1818 wheat; spring 1820 corn; fall 1821 fallow wheat and clover; spring 1825 corn; fall 1825 wheat; spring 1827 corn; fall 1828 fallow wheat and clover.

No. 7.—spring 1819 corn; fall 1819 wheat; spring 1821 corn; fall 1822 fallow wheat and clover; spring 1826 corn; fall 1826 wheat; spring 1828 corn; fall 1829 fallow wheat and clover.

You will remark I have made an exception to one field being under cultivation, viz: the vacant stock field, but you may without any interference with your fallow, seed oats in it, and put wheat on oat stubble, but still objections present themselves, viz: you are debarrd the opportunity of drawing marl, marsh mud, bankshells, &c. on it from the spring until harvest, and again it will be drawing four successive crops before you apply your wheat fallow and clover, whereas by omitting the oats you take but three crops, viz: corn, wheat, corn, then fallow and clover which I consider no disadvantage as you are enabled to destroy all weeds, and garlic before the application of clover, and to compensate for the reduction of the land you restore it by the marl, marsh mud, lime, bankshells, &c. being ploughed in during the summer, and re-manured by compost being spread and ploughed in with the wheat fallow, followed by clover, which remains until the fifth spring, which will be readily perceived by the table presented above—and here permit me to remark that clover and manure are the sumpsons of farming. Having persevered in the last mentioned system until I made myself well acquainted with the advantages and disadvantages thereof, I can safely say my crops have increased under it both in quantity and quality, although the last seven years have been mostly unfavourable to wheat—the garlic has almost disappeared which is of high importance, still there are some objections to the above, one is I have my doubts whether or not it improves the land as much as the first system, as it must be a self evident fact, clover turned in will improve land, and by the latter one field of corn is put on clover, although I have observed under the latter mode my crops have increased, it will be remembered I had no marl, nor not half the quantity of compost in my first system as now. The second objection is, I had no pasture from the planting

of corn until the first of June when the stock should be turned on clover and not earlier. Therefore thought it advisable to make a small change, my present plan of farming is much like the last only dispensing with the fallow, but continuing seven fields, two in corn, in lieu of the fallow, cut my corn from one of the fields, on which I apply my compost as before recommended on wheat and clover; the other corn field is seeded with wheat in the usual way—this gives me an additional pasture, my experience has been but of a short duration in the last mentioned system, therefore am not able to say much for nor against it. The above farming proceedings have been altogether confined to one farm, I have another which has been for many years divided into four fields, cultivating one annually in corn, on which I seed wheat in the fall and clover in the spring, applying all my manure to the corn field. You will then have one in corn, one in wheat, two in clover, one to cut, one to graze, still you want pasture from April till June when clover should be turned in to, as previously observed. I have thus laid before you four plans which have past under my view practically for the last twenty-three years, and my objections; no system of farming has ever yet been perfect; and after mature deliberation have come to the conclusion that the seven-field system, as referred to in second table may be most profitable to pursue, particularly if convenience will enable the farmer to soil his stock as laid down in the first six-field system, or if a standing pasture can be presented until June.

I fear I have trespassed too long on your patience, but when I reflect your desire is to disseminate all the knowledge you can from practicable farmers (though mine may not be of much use) I feel more satisfied, and beg leave to proceed a little farther. A short time past when perusing your paper, the first article which attracted my attention was from Mr. Mead of Frederick county, Virginia; "on the improvement of worn out lands," he appears to lay great stress on two causes why our lands to the south are in a low state of improvement, by the use of ardent spirits and the black population. I most cheerfully agree with him relative to the first cause, which is the fell destroyer of *soul, body, and property*, and has caused an aching heart in the bosom of many a virtuous and fair wife, but I do not in toto agree that the latter is another strung cause; it is a self-evident fact known to all slave holders, they are naturally idle and careless, and this will grow on them if their masters do not attend closely to them, and keep them in proper subjection, this has been the great moving cause why this population has of late become so great a curse to the land. A farmer should always have in view the propriety of attending closely to his interest, not only order and direct, but see that all things appertaining thereto are in proper order, not to keep mere servants than can be profitably employed, and see that the work is done in a farmer-like manner; then slave labour is more profitable than any other, where so much land is cultivated as in the south. Where is the merchant who leaves his mercantile concerns to his clerks and boys, and never enters his counting house for weeks or months whose books will exhibit a large profit at the end of the year. Had the late Mr. Girard pursued this loose practice of doing business, would Pennsylvania ever have enjoyed the fruits of his labour? did his coat set any the worse on his back owing to his methodical attention to business? or has he died less in the estimation of his fellow citizens? Or, sir, will a fine suit of clothes look better on a *street pacing dandy* than on the attentive farmer whose pride it is to see his fences in fine order, his head rows cleared of thorns and brambles, his manure carts daily in the field 30 minutes before sun-rise, his horses fed, rather than have half of the food secured by the servants to be conveyed away by their midnight rambles to some neighbouring grog-shop? I think, sir, from the attention you bestow on your paper you will say no. I was much gratified to see the energetic manner with which Dr. Mead has handled the

subject of worn out lands, and hope many thousand acres may be reclaimed.

In conclusion, allow me to say that part of the lands on the Eastern shore of Maryland have made as rapid improvement for the last twenty years as the celebrated lands of Lancaster county, and farther, I hazard an opinion that the lands on part of the Eastern shore of Maryland are better calculated for many causes to enrich the farmer than those of Pennsylvania or the western lands. It is with the pride of a farmer that I witness within the circle of my acquaintance gentlemen who have abandoned the old practice of being roused from their morning slumbers by the tap of three or four servants at their doors to invite them to breakfast, or setting from three o'clock till ten inhaling the intoxicating juice of the grape, and the obnoxious stimulus of the tobacco plant. This, in my opinion, in part, has been produced by the indefatigable industry with which your paper and others have been conducted, and the establishment of agricultural societies.

AN EASTERN SHORE FARMER.

(For the American Farmer.)

CHEAT OR CHESS.

If the Editor will permit me to *glean* in the same field where he has *reaped*, I will make a few remarks on Dr. Mose's article on *Cheat*.

Dr. M. may not have wished to enlist the prejudices of his readers by saying, "the philosopher in his vanity;" but vanity is not peculiar to philosophers. Every man who goes beyond his depth is liable to the same charge; and I think Dr. M. will join me in believing that obstinacy and dogmatism are not more common among the learned and enlightened, than among the ignorant and the illiterate.

The case of Dr. M.'s variety of Indian corn, has no bearing whatever, so far as I can discover, on the subject of Cheat. Plants that commonly have stamens and pistils in separate flowers, occasionally present some containing both of those organs. "It is a curious fact," says Nuttall, that pistilliferous plants of the hemp, have been known to produce fertile seeds, when cut off from all access to the staminate individual;" and I could give several instances of other plants, considered strictly *dicocious*, which produced perfect fruit when not within miles of any plant of its kind. In the case of the Indian corn, there only happened to be pistils intermixed with the stamens of the tassel. I have frequently seen such, but never suspected that the plant had turned, or was about to, turn, into a different genus! Grains of Indian corn are always round, except when their sides are flattened by the pressure of other grains.

In speaking of *Cheat*, Dr. M. (if I understand him) doubts whether this "spurious growth" is *Bronus*, or *Cheat*, or *Lolium*, or *Darnel*, or *Chees*, or *Oats*.—He must therefore have thrown aside all the writings of modern botanists on this subject, for they have long since settled that question. An observer who rejects all assistance from others, must stand far on the back ground, however "diligently" he may repeat his "observations." Had Linnaeus, or Jussieu, depended on his own solitary light, what could he have known, or done.

Has Dr. M. understood the testimony of "Tyro?" I consider them directly at variance in their statements. Dr. M. says *wheat* turns into *cheat*, and "Tyro" says that *oats* turned into *cheat*. Yet Dr. M. calls this a "conclusive fact" to prove that wheat turns into *cheat*.

Dr. M. would do well to deposite some of those spikelets of "*Darnel*," (*cheat*) containing seeds which could not be distinguished from wheat with the Editor of the American Farmer for inspection. His opponents on this question will not shrink from any investigation.

When Dr. M. refers to ancient or modern records to "establish the fact that a plant may be so altered by adventitious circumstances affecting its growth, as

not to be identified with its family," he ought to name the plant, the observer, the age, and the country wherein it happened. Such testimony, coming from men who are fond of the marvellous, ought to be suspected. If the plant could not be identified with its own family, I should like to know how it was identified? and how it was proved that one plant had not been mistaken for another, as in the case of wheat and cheat.

Dr. Paris's testimony proves nothing in favor of wheat turning into cheat, for there is no analogy in the cases. Of the peach springing from the almond, there is no kind of proof whatever. If President Knight had not taken up a fanciful theory, he might have supposed that that "intermediate production" was a hybrid. The peach differs from the almond in its leaves as well as in its inflorescence.

If "many vegetable species have been lost," it remains yet to be shown; and if it were shown it would have no bearing on this subject. If "new species and genera" in the vegetable world have been "substituted," it devolves on Dr. M. to show them. Such assertions without proof, avail nothing.

Dr. M. ought to have remembered that Buffon's reputation has long been on the wane, and that his opinion on the origin of wheat is of no value. Buffon also affirmed that Nature in America "belittled" her productions; and he had no better authority for the one assertion than he had for the other. His knowledge of Botany was considered so *slender* by Linnaeus that it is said, he contemptuously wrote the name of the genus which was meant to honor Buffon, *Buffonia*.

Dr. M. is unfortunate in selecting authorities. Instead of referring to Ray or Turnefort, Linnaeus or Haller, Jussieu or Smith, he goes back to "the enlightened days of Rome" and "the most enlightened of its citizens—the elder Pliny." Does Dr. M., who believes in "the divine perfectibility of the human mind," also believe that knowledge has been retrograding through the last seventeen hundred years? But he had, doubtless, reasons for this preference of a semi-barbarous people. I subjoin the character of the elder Pliny, as a *b-tanist*, from an author of great respectability: "Pliny was a mere compiler, and whatever knowledge he might have acquired in his walks in the physic garden of Antonius Castor, it is certain that none of it appears in his work, which exhibits only a collection of memorandums badly translated from the Greek, in which, for want of critical and botanical knowledge, numerous mistakes are evident."

When Dr. M. shall bring forward "the facts (that) contradict this philosophy;" (of like producing its like) he may rest assured that they *will* "be respected;" but I want also to apprise him that *hearsay* evidence will not answer his purpose. Neither is it enough that a witness is disposed to speak the truth; his perceptions must be sharpened by science. What judge would give in charge to a jury, the medical opinion of a quack, or of a scavenger?

Dr. M. can have no right to complain if I take up a shaft of his own shooting. After considering his premises and deductions, I am willing to take the same liberty that he has taken, and say the same thing, from a firm conviction of its propriety, in reference to his article, that he has said: "This is truly catching at straws—it is evidence of a desperate case."

A GLEANER.

(From the Genesee Farmer.)

HARROWING MEADOWS.

We not infrequently hear farmers complaining that their meadows are sward bound. In the spring of 1830, I had a piece of meadow in this condition. Not wishing to plough it up that season, by way of experiment, I harrowed it faithfully, which produced the desired effect. My crop of hay was much larger than the preceding season, owing, I have no doubt, to the application of the harrow.

S. B.

CHEAT OR CHESSE.

Mr. SMITH. *Warrenton, Va. April 2. 1832.*

Sir—As the war is still waging upon the subject of wheat turning to cheat, and it may be that your readers have not decided to which side the palm of victory should be awarded, I will endeavour to afford them some assistance in their dilemma by communicating the following fact. A gentleman in this county, a practical and successful farmer, and also a distinguished member of the profession of law, and to whose statements and opinions every respect is due—a few days since informed me, that some years ago, he plucked from the field of a friend, head by head, one or two hands full of wheat of a kind then new to him, and having prepared a piece of ground in an enclosure adjoining his garden where some of the coarser vegetables had been raised, he sowed it the greater part in drills, the balance broadcast. The whole did not cover more than two square yards. It all grew off finely; but in May a hog got in the enclosure and before it was discovered, eat down all that was sowed broadcast, and the ends of some of the drills; and here and there took a mouth-full from the middles of the drills. At harvest all that part cropped by the hog proved to be cheat, the rest good wheat.

The gentleman, from his own observation of the circumstances, believes, not that the wheat died after it was bitten and the cheat grew in its place, but that the same plants continued to grow and produced cheat. He does not believe there was any cheat in the ground before.

I asked a practical farmer in the neighbourhood, the other day, if he believed wheat would turn to cheat. He replied yes, if it is eaten off by any thing when it is half a leg high, for he had observed that where it was cropped by a horse at that stage of its growth it became cheat, as he thought. Yours, &c.

MIDDLE VIRGINIA.

P. S.—If your correspondent of Brotherton, who signs W. will write to Doctor Klypsine, P. M. New Baltimore, Fauquier county, Va. he will give him the receipt for a mixture of white-wash that will admirably suit the desired purpose. It is thought so valuable and cheap that the Dr. has procured a patent and is making much money. His fee is \$2.50, or \$2.00, I am not certain which.

ON THE CULTIVATION OF CORN.

Mr. SMITH: *March 16, 1832.*

The dispositions of persons are said to be various as their features and almost as great a diversity of opinion exists in relation to matters in general. This idea occurred very forcibly to my mind on the perusal of the prize essay in No. 43, American Farmer, on the subject of raising Indian corn—a grain of such general notoriety, so simple in its cultivation, and almost the staple commodity of agriculture, especially in the middle and western states, that one is almost led to believe that there could be no difference of opinion as to the proper and most approved management—there being but one way and that the right one.

True it is, too many have come to that conclusion, and each, no matter how much at variance with his neighbour in theory and much more in practice, thinks that his is the only correct method. Ask for a solution on philosophical principles and two thirds if not three fourths of our honest and enterprising farmers can assign no better reason than the Dutchman did who travelled the old road in preference to the new, because "his fadder had always gone that road and besure had done very well." Such is the proneness of mankind to remain stationary in practice almost without theory, purely from a superstitious regard to ancient customs and paternal maxims. Others again, adopt implicitly whatever comes to hand in the shape of a new theory or recent discovery, especially if the same be found in print or have a name to recommend it—for, as Mr. Addison observes, "there is something in a name." Extremes ought to be avoided as prejudicial to the cause

of society at large. There is a medium point which usually abides the test of sober reason, and by an adherence to which men do seldom err in the speculative departments of "human affairs." With much deference and profound respect to the judgment of those selected to examine the essays offered for premiums in the American Farmer, I beg leave to suggest that the writer of the essay on Indian corn has fallen a little into one of the errors above hinted at. And although the premium awarded is, perhaps, the least the merit of the essay is entitled to, yet I think a part of the writer's views somewhat erroneous. His preliminary remarks are truly excellent and afford a lesson of instruction important to be known to the young agriculturist. There are so many advantages attending the practice of deep ploughing that it is a matter of surprise that the least discerning should have overlooked it. But when the practice of deep planting is recommended I must withhold my assent. It is an important desideratum in agriculture that the earlier grain can be brought to maturity in the season the better. Warmth as well as moisture is necessary to carry on the process of vegetation and insure the growth of plants. The grain then being deposited from six to ten inches below the surface must be several degrees colder than it would be if half the depth—the medium point. Hence a considerable difference would obtain at the most critical period of a corn crop, save the time of earing. Nor is this all, for whilst we are taking too great a precaution against drought we subject ourselves to drowning. The grain being deposited to the depth of the broken soil must vegetate on a solid bottom and none but horizontal roots being nutriment to the stalk. These objections to deep planting especially to the depth of the ploughing are satisfactorily established by reference to what we call finishing furrows in the breaking up of a piece of land, where we discover the corn falls far short of that planted on loose or pulverized earth. After considerable attention to the subject and repeated experiments, the most approved method as security against rain and drought, I find is to furrow out deep and cross or check half the depth. The deep furrows serve as drains or reservoirs to hold the water, for but little is needed in the first stage of a corn crop. Exceptions, I think, might also be taken to the general rule of preserving a level surface throughout the process of cultivation, which supposes light tillage as the writer in a subsequent paragraph has recommended. It may answer in light alluvial soils or where the ground is highly manured. But it has fallen to the lot of few farmers in comparison with the whole to be thus favoured; while we offer hints for the good of one it should be in the meantime with an eye to the whole—giving a general rule and noticing the exceptions. For we well know that the leveller the surface the more it is inclined to settle and become hard after heavy showers, thus defeating the important object of keeping the soil light. Nor do I think there can be any objection to deep ploughing while the corn is young, for it serves to keep the ground mellow and lively to the depth required—and as the corn becomes older plough shallower. Here you will discover that I am an advocate for more than one ploughing even in addition to harrowing. It is a striking trait of human character to leave the work before it is finished. I find that most farmers stop the plough too soon, and that those of more perseverance have received an adequate reward. It may be said that much ploughing exhausts the soil, even if it produces more. Granted: be more industrious to recruit it.

Now, Mr. Editor, if in your judgment any of the above crude remarks contain a single hint likely to be useful, you are at liberty to publish them. Otherwise, your decision will be cordially acquiesced in by

J. CONSERVATOR.

It is an honor to their (the Spaniards) laws, that a man loses his testimony who can be proved once to have been drunk.—*Sir William Temple.*

HORTICULTURE.

(From Prince's Pomological Manual.)

STRAWBERRIES.

(Continued from page 29.)

CLUSTERED SCARLET—*Hort. Trans. Lind.*
Clustered Wood Pine.

This fruit is of a moderate size, obtusely conical, or nearly round, very dark purplish red; the seeds are of the same color as the fruit, unequally embedded between the intervals, which are sometimes flat, and at other times bluntly ridged; the flesh is scarlet, firm, and well flavored.

COCKSCOMB SCARLET—*Hort. Trans. Lind.*

This fruit is large, compressed, with a furrow along the apex, which appears as a simple indentation when the berry does not put on a cockscomb-shape; the early berries are completely cockscombed, so much so as to enclose the calyx within the fruit by surrounding the end of the peduncle; the color is a bright scarlet; the seeds are pale, slightly embedded between flat intervals; the flesh is of a pale scarlet hue, solid, with a large core, well flavored but without acidity.

WILMOT'S LATE SCARLET—*Pr. Cat. Lond. Hort. Trans. Lind.*

Wilmot's Scarlet, Wilmot's New Scarlet } of English
let, Wilmot's Seedling, Large Scarlet } Catalogues,
let, Late Scarlet, Late Virginian, } &c.

This fruit is very large, bluntly conical, irregularly shaped, and of a shining light red color; the seeds are small, deeply embedded, with ridged intervals; the flesh white, hollow, in the centre, and of moderate flavor. It is a good bearer, ripening late enough to succeed the old scarlet, and producing its berries in succession, so as to afford a continued supply. In order to taste it in perfection, it should be eaten as soon as gathered.

SIR JOSEPH BANKS' SCARLET—*Hort. Trans. Lind.*
New Scarlet. lb.

This fruit is of a bright scarlet color, of moderate size, oblong, with a neck, the apex blunt; the seeds are nearly prominent, with very flat intervals; the flesh is a brilliant scarlet, firm and highly flavoured. Mr. Lindley remarks, that this variety is very closely allied to the Austrian scarlet, with which it has probably been sometimes confounded; it ripens nearly at the same time, and though not so prolific, has a superior flavour.

VERNON'S SCARLET—*Hort. Trans. Lind.*
White Scarlet. lb.

This fruit is of medium size, round, dark red, rather hairy, the seeds are slightly embedded, with flat intervals; the flesh is of a pale vermilion hue, white at the centre, solid and well flavoured.—It is a good bearer, and ripens early.

KNIGHT'S LARGE SCARLET—*Hort. Trans. Lind.*

Hairy leaved Scarlet,
Great American Scarlet, } of English collections.
Large Scarlet,

This fruit is about the medium size, roundish or slightly conical in its form, and of a light vermilion colour; the seeds are deeply embedded, with ridged intervals; the flesh is nearly white, soft, and of a pleasant flavor.

LEWISHAM SCARLET—*Hort. Trans. Lind.*
Scarlet Cluster. lb.

This fruit is of small size, roundish, with a short neck, slightly hairy, of an uniform dark shining purplish red, and grows in clusters; the seeds are embedded, but not deeply so, and with flat intervals; the flesh is scarlet, firm, and solid; the flavor very moderate.

METHVEN SCARLET—*Pr. Cat. Hort. Trans. Lind.*
Methven Scarlet. Southampton Scarlet.

Lindley and others thus describe this variety. The fruit very large, cordate, compressed, inclining to

cockscorn shape in the earliest fruit, the late berries conical: the colour dark scarlet; the seeds pale yellow, not deeply embedded, regularly and closely set with ridged intervals; the flesh of a scarlet hue, very woolly, and tasteless, with a large hollow in the centre.

OBLONG SCARLET—*Hort. Trans. Lind.*

Long fruited Scarlet,
Long Scarlet,
Padley's Early Scarlet, } of English catalogues, &c.

This fruit is of a rather large size, oblong, with a long neck, which part being without seeds has a peculiar glossy or shining appearance, of a bright light scarlet colour; the seeds are few, deeply embedded, between ridged intervals; the flesh is nearly of the same color as the outside, but of a little paler hue, firm, and of good flavor.

PITMASTON BLACK SCARLET—*Hort. Trans. Lind.*
Early Pitmaston Black. lb.

This fruit is of moderate size, oblong, with a neck, slightly hairy, and of a dark purplish red color; the seeds on the sunny side are of a similar hue, but on the other they are yellow, not deeply embedded, and the intervals are rather flat. The flesh is tinged with scarlet, tender, with a small core, sweet mingled with a pleasant acidity, and partaking a little of the raspberry flavor.

SCONE SCARLET—*Hort. Trans. Lind.*

This fruit is of moderate size, round, without a neck, hairy, of a light shining red on the sunny side, and paler on the other; the seeds are dark brown, deeply embedded, with round intervals; the flesh firm, and of a pale pink hue; the flavour sharp, with abundance of acid. It is a great bearer, ripens late, and the fruit contains more acidity than any other known variety.

Remarks.

The varieties of strawberries here described are deemed sufficient in point of number for the purpose of selection; the author has, however, a number of others under culture of which he cannot at present define the peculiarities with sufficient precision, and he therefore defers noticing them until his investigations are perfected. In the descriptions given in this work, where the size of the fruit is mentioned, it is to be understood that the comparison is only made between the varieties belonging to each particular class, and that it does not comprise the varieties belonging to other classes; and where it is stated that the fruit has a core, the idea intended to be conveyed, is, that the core readily separates, adhering to the calyx, when the receptacle is removed.

(From the New England Farmer.)

HEATING HOT-HOUSES AND GREEN-HOUSES BY HOT WATER.

Although the subject of heating hot-houses, &c., by hot water, may not, to a superficial view, seem to be of very extensive practical utility, yet an investigation of the principles of this branch of economy of heat, may lead to results of much importance, which the enquirer could not have anticipated. We hope, therefore, that our readers will excuse us for dwelling somewhat in detail, on a topic, apparently in some degree foreign from the great interests to which our paper is devoted.

Those green-houses, and other repositories of untimely and exotic vegetation, in Europe called forcing-houses, in which fire was made a substitute for heat of climate, had been for two centuries, heated solely by brick flues; that is, by the heat given out by the blaze and smoke of burning fuel. That this mode had been entirely adequate to its end is proved by the fact, that at Kew, Paris, Liverpool, Leyden, Berlin, St. Petersburg, &c. they have been able to produce grapes in winter; pine-apples in spring; and to bring into flower the rarest West and East India plants, and even to ripen their fruits to great perfection.

When, however, the management of steam became familiar to British mechanics, they applied the surplus steam not required for their machinery, to the heating of their work-shops. This soon led to the employment of steam in heating every description of forcing-houses, hot-houses, green-houses, conservatories, graperies, and pineries. They were the subjects of great praise, but nevertheless, a great proportion of the practical gardeners revolted at them; not, as we shall endeavour to show, from well grounded objections to the use of steam, but from the *abus* of it; because, instead of using it as an auxiliary power, the projectors, vain of their discovery, insisted on its being an *universal* remedy. It was like a quack medicine, able to cure, equally well, all diseases, however opposite their character.

The Hon. J. Lowell has, in our opinion, discovered and put into useful operation, an improvement on the European modes of heating hot-houses, &c. After having derived much pleasure from the inspection of this improvement, we requested and prevailed on Mr. Lowell to furnish us with the following notices, of the origin and progress of his mode of heating hot-houses, &c.

"I imported the horticultural transactions of Europe, and found the parties divided with regard to the comparative value of heating by steam and by smoke flues. I said to my friends, these gentlemen are so angry with each other, that they do not perceive that the two modes of heating green-houses, &c. may be very easily combined. Why should the advocates for smoke flues, be so obstinate as to reject the prodigious power of steam? And why should the new advocates for steam, reject the heating effects of the smoke and the flame, which must be at least equal to all the heat which they can force the ignited fuel to part with to the kettles?"

"I resolved to depart from the practice of heating by steam only. I placed my boiler within my house, instead of following their example. This alteration alone was a saving of one ton of coal. I then resolved to continue my smoke flues in addition to my steam pipes. I soon perceived that I had gained most important benefits. I found that of one hundred and twenty days of winter, there were not more than thirty in the whole (one quarter part) in which it was necessary or even useful to raise any steam whatever. Here let me stop to explain this. Steam will not rise to heat a steam pipe, till your water in the boiler is heated to 212 degrees. But before that happens, your brick flue has been so heated as to raise the thermometer in your house, to 60 degrees at least. Now as this degree of heat is not only sufficient for your plants, but a better temperature for their health than any other, being about the average temperature of summer, all artificial heat above that point is positively hurtful. The practical gardener will comprehend me, when I say that it forces plants prematurely and they are weakly and sickly.

"Such was the state of our experience on this subject, when we were told that hot water pipes and reservoirs were adapted to cure all our evils, and produce, not only economy of fuel but of labor. I listened with the deepest interest to the accounts of this new discovery. The fact, unquestionable in itself, that hot water parts with its heat more slowly than any other substance, struck my imagination. I resolved at once to try the hot water system; but, instructed by experience, I resolved that if I adopted it, I would not give up the smoke flue, which I knew had given out, at least, as much heat as either steam pipes or hot water pipes could do—or in other and plainer language, in using either hot water or steam pipes exclusively, you gave up one half of all your power—you reduced at once one pound of coal to half a pound.

"Having made these replies to your inquiries, I beg leave to ask you to republish the observations of Mr. Paxton, principal gardener to the Duke of Devonshire at Chatsworth. His remarks were made, in reply to strictures of Mr. Loudon, as to his, Mr. Paxton's,

refusal to adopt the hot water system. Of Mr. Paxton's abilities, Loudon himself speaks in high terms. The public will judge of the comparative capacity of the two parties to decide, when they learn that Mr. Loudon is an architect and Mr. Paxton, whom he praises, has the care of nearly thirty green-houses, hot-houses and pineries, that he is the practical manager of one of the most extensive establishments in Great Britain. Mr. Paxton urges the same objection which I have urged to hot-water apparatus, when used exclusively, that it is a wasteful expense as to green-houses and graperies, because there is not more than twenty or thirty highs in the year, when you are obliged to get up your hot water pipes to their maximum.

"I believe fully, that if our improvement should ever be admitted into Great Britain, it would supersede the present modes of heating. Its essential superiority consists in this: the upper pipes without flanges, are laid along the top of the smoke flue, and the lower are returned in contact with the same flue. Thus the heating of the water pipes is very essentially accelerated, and their cooling is essentially retarded. At Roxbury, on the famous 27th of January last, the thermometer in my hot-house did not fall below 56; and at Gardiner, Me. in a very large green-house heated on the same principle, on the same day, the thermometer within the house stood at 39°, while without it sunk to the degree of 20 below 0."

"P.S. I ought not to conclude these remarks, without adding that your apparatus for heating rooms, embracing as it does, the principles necessary to give a quick and durable heat, is, I think, of great value."

T. G. FESSENDEN, Esq.

The observations of Mr. Paxton, gardener to the Duke of Devonshire, noticed above, were as follows:

"Question How do you like hot water in comparison to fire flues?"

"Answer. So far as my experience has led me to draw any conclusion, I will answer your question. When hot water was first noticed in the horticultural transactions, I was almost in raptures with the idea, and as soon as possible I sat about heating those two pits you now see with it, and although it was thought the pipes then put in, (a double return,) would be more than sufficient for the purpose of heating the pits, independent of two large cisterns full of hot water, to my astonishment, on the approach of severe weather we had considerable difficulty to keep out the frost; and in the severe storm, two years since, our pine plants were so much injured, that they nearly all started prematurely into fruit in the spring. You are aware that water evaporates into steam at 212 degrees Fah., and consequently, the pipes cannot be heated to a greater degree. The difficulty in hot water is; that while in a severe frosty night, the external atmosphere is continually lowering, you cannot keep increasing the hot water to counteract its effects, without putting up nearly double the quantity of pipes that would be necessary under ordinary circumstances; when, with a well constructed flue, you could advance to any degree that might be required. Our houses are so contrived that we have full command of the internal air, without in the least distressing the flues in the most severe weather; and my foreman has repeatedly told me, that the only fire requiring attention more than once in the evening, is that attached to the hot water pit. I have offered him a man to assist him, but he has always refused, saying, he had no cause to visit the fires more than once in the evening, except in very severe weather. There are flues in the garden, erected before I came to Chatsworth, that almost burn one end of the house while the other is nearly cold; but these I do not now use for early forcing, and therefore have not altered them. All the flues I have built, give out heat in so uniform a manner, that there is no difference between one end of the house and the other; and by the plan of having an open canal of water at the front of the fires, to give

out moisture according to the heat required, not the greatest action of the flue can in the least injure vegetation; being a self-actor, it evaporates more or less as the decrease or increase of the fire becomes necessary. And on entering the house, after a severe frosty night, not the slightest unpleasantness is perceptible. This canal is made of block tin, and when properly painted will last a great number of years."

"Q. Do you mean then to discontinue hot water for forcing?"

"A. By no means; I have some alterations at present going on for improving it if possible; all I want is for it to stand on its own merits, and for all persons who give their opinions, to speak from experience."

We will close this article with a few brief remarks of our own. More or less heat is always expended in and about a fireplace, during the combustion of fuel. Of course it must be good economy, as a general rule, to construct a fireplace within the apartment to be heated. A smoke flue is often pervaded by flame, as well as by smoke and hot air, for many feet from the furnace, and may be considered as a continuation of the fireplace, adding much to its power of heating. A hot water pipe placed on or in contact with a flue, receives heat from the latter and distributes it more equably, than could be done by the flue alone. This arrangement, together with a reservoir somewhat larger than the boiler, to make up in quantity what is wanted in temperature, may serve to equalize, or nearly so, the warmth of both ends of the house.

The boiler, flue, pipes and reservoir, are receivers, carriers, distributors and depositories of heat, and are all useful when judiciously employed.

There are three things to be desired in heating hot-houses, &c. A quick heat, which may be gained from brick flues or steam pipes. A durable heat, furnished by hot water pipes and reservoirs. And a moist heat, obtained, as mentioned above by Mr. Paxton, by "open canals," or by any kind of open metallic vessels containing water and placed in a warm situation, or by perforated steam pipes and other modes now in use.

Mr. Lowell's method of combining a quick with a durable heat, appears to us to be a great improvement, which might be advantageously used for many other purposes, besides heating horticultural edifices. Its value has been ascertained by the infallible test of experiment; and we think it will be embraced with avidity by European as well as American horticulturists.

We believe that the apparatus for heating by hot water, constructed by S. G. Perkins, Esq., and Col. T. H. Perkins, heretofore described in our paper, are perfectly in accordance with the latest English improvements in that branch of economy, and think their enterprise and skill deserve high commendation. Mr. Lowell's apparatus, however, appears to us to be an improvement on the greatest advances of which we have seen any notices, in Great Britain or the United States.

Magnificent Cypress Tree.—In the gardens of Chapultepec, near Mexico, the first object that strikes the eye is the magnificent cypress, called, the cypress of Montezuma. It had attained its full growth, when that monarch was on the throne, (1520,) so that it must now be at least 400 years old; yet it still retains all the vigor of youthful vegetation. The trunk is forty-one feet in circumference, yet the height is so majestic as to make even this enormous mass appear slender. At Santa Maria de Tula, in Oaxaca, is a cypress 93½ English feet in circumference, which yet does not show the slightest symptoms of decay.

[Ward's Mexico.]

Why should the crowns be removed from ripe pine-apples?

Because, when suffered to remain, they live upon the fruit till they have sucked out all the goodness.

RURAL ECONOMY.

BOTS IN HORSES.

Dardenne Post Office, Missouri,
21st March, 1882.

MR. SMITH:

I have been very much interested in the discussions and investigations which have been carried on through the medium of your Journal lately, on the subject of bots in horses. Each of your principal correspondents, viz: Dr. Harden, Agriculturist and Mr. Ellis, has added considerably to the common stock of information on that interesting subject; and with a view of adding my mite also to that common stock, I have presumed to furnish you with the result of some of my own observations. In the outset then, with all due deference to gentlemen whose scientific education and very superior means of acquiring specific information have so greatly exceeded mine, I will state a fact which seems entirely to have escaped the notice of writers on this subject, viz: that there are two distinct species of these gad, bot or nit flies; in their general appearance having a near resemblance to each other, yet sufficiently distinct upon close inspection to be identified as a distinct species of insect. The fly which I suppose produces the bot is smaller than the other and rather longer in proportion to its thickness, and of rather a darker color; the light yellow color about the head and body being, not quite so conspicuous; this (the smaller of the two species) which I consider the parent of the bot, deposits its eggs on the under jaw and on the neck of the horse about the junction of the neck with the head, and no where else. Its vision is, I apprehend, from its habits, rather indistinct, as it almost always misses its aim, unless it passes between the fore legs of the horse, when about to deposit an egg; and frequently when it does so pass, if a man be standing near the horse's head, it often becomes confused, when it uniformly abandons the horse for an interval of 5, 10, or 15 minutes, and then returns to deposit a single egg and again retreats for another interval of like duration. Agriculturist is perfectly correct as to the antipathies of the horse to this fly; from which I infer that it is a deadly enemy. My work horses always become entirely unmanageable when this species of fly attacks them, and I am compelled, whenever one of them commences operations, to stop my team and watch for the periodical returns of the enemy, and from his uniform approach between the fore legs of the horse am enabled generally to succeed in catching the annoying insect very soon, and exhibiting it to my horse, when he immediately becomes pacified and proceeds to labor with his accustomed calmness. The place of deposit of the egg, I think will account for the fact that old field horses or horses kept at pasture never have many bots. The eggs are placed where the horse cannot reach them with his mouth, are never very numerous, and if they chance to drop amongst the grass, will generally fall entirely to the ground and out of his reach, where they perish. Not so with the well fed horses, the very act of eating out of the trough inevitably rubs the eggs loose from the lower jaws and throat of the horse, and places them amongst his food, with which they are carried to the stomach, the heat of which soon animates them. If Dr. Harden will select an egg from this location and hatch it with his breath he will in all probability find it to be a young bot. Now as no remedy has yet been proposed for this disease (bots in horses) which may be relied on, I will venture to recommend a preventive: it is either to remove all the eggs of this insect, which are never very numerous, from their locations, before feeding, or which would probably be less troublesome and equally effectual, to anoint the throat and jaws of all very valuable horses, repeatedly, with the common mercurial ointment, or some other vermifuge that would not injure the horse. My own practice is to scrape off the eggs frequently, and if often enough and well done, will I am confident be effectual.

The other species of nit fly, I suppose produces a

worm which inhabits the after bowels, of which horses discharge great numbers in the spring, from two to four inches in length; the largest about the thickness of a common rye straw in the centre, tapering gradually and regularly each way from that point to each end, which is about half or less than half the size of the centre; variegated in its color, probably from the internal contents of the insect showing themselves through the semi-transparent coats. This last fly deposits its eggs indiscriminately upon the legs, sides and belly of the horse, where they can be reached readily by the mouth, and are probably taken into the mouth when nipping himself with his teeth to allay occasional itchings, and carried down the gullet with the next mouthful of food which he eats; and finally seek their appropriate place in the intestines of the animal. This fly is very unlike the other in its habits; it approaches the horse deliberately, lodges about his sides and legs with much seeming unconcern, and deposits egg after egg as opportunity offers, and as nature prompts, without at all disturbing the repose of the horse; but seldom if ever placing an egg in company with those of the other species. Mr. Ellis is perfectly correct in the statement that bots sometimes kill horses, by congregating so thickly in the lower extremity of the gullet, and also in the passage from the stomach to the bowels. Several horses within my knowledge have died apparently from their accumulation at the entrance into the stomach, in such dense masses as to bid defiance to the entrance of any food into that organ. Should you deem these remarks worthy of a place in the Farmer you are at liberty to insert them, but should you determine otherwise I shall not be greatly mortified as I have never before attempted any thing for the press. If this essay should be considered of sufficient value to merit an insertion, I may hereafter attempt a description of the different soils and the different modes of cultivation, practised in this state, with some of the results of observation and experience on those subjects.

I remain, sir, yours, with great respect,

JOHN SMITH.

—The Editor of the American Farmer will gladly receive any communication the writer of the above may think proper to offer—particularly on the subjects designated by him.

(From the Augusta Journal.)

LIVERPOOL SALT.

The Portsmouth (N. H.) Herald says:—"Last week we were told by a gentleman, who lives in the interior of the state, and who makes several hundred pounds of butter every year, that this season he had been very unfortunate in the manufacture of his butter. He said that his family made and packed it down as usual; but that, for the first time, they used Liverpool or blown salt. Although the same care was taken in manufacturing and packing the butter, it was of so inferior a quality, that he did not think it expedient to bring it to market. This gentleman attributes his loss to the Liverpool salt."

From the above, as well as from what we have previously communicated, it would seem that the salt in question, has not those antiseptic properties which it has hitherto been thought to possess—and upon further investigation, if this should prove to be the case, it will be perceived that there is great risk in using it in the manufacture of cheese also, as is now the custom with many of our farmers; nor would it be safe to use it in packing beef, pork, &c. because it will prove wholly inadequate to the preservation of these important articles of food from decomposition, and thus render them unfit for domestic consumption or shipping.

We have been induced to bring this subject again before the public, at the suggestion of a wholesale grocer in this town, who says that the difference between butter put up with this salt and with the natu-

resl crystalized salt, is so great, that he can generally distinguish it at once, by the odour, on piercing or opening a firkin. We should be glad to receive the opinion of some scientific gentleman, who has facilities for analyzing Liverpool salt and who can best judge of its antiputrescent qualities, when compared with salt brought from the Bahamas, Isle of May, Portugal, and the Bay of Biscay.

(From the New England Farmer.)

HOP BEER.

Andover, Con. Feb. 1832.

For one barrel, boil 1½ lbs. of good hops and 1½ lbs. of ginger in 10 gallons of water, one hour. Put 10 quarts of molasses into a barrel, to which add the liquor hot, shake it well; then add some cold water and 1 pint of yeast, shake and stir it again; then add the whites of a dozen eggs finely beaten and cold water sufficient to fill the cask, give it another stirring with a stick, bung it close and let it stand one month. It should be made in June or July—instead of half a pint or more of rum per day, a moderate quantity of it should be drank by the laborer, who will find it to add to his strength and vigor, allay his thirst, and prolong his life and consequently his usefulness. Try it and see. J. T.

(From the Genesee Farmer.)

DISEASES IN SHEEP.

MR. GOODSSELL: Middlebury, March 1st, 1832.

Permit me through the medium of your valuable paper to make public the following useful experiment. In consequence of the long and severe winter, my sheep, especially the last spring lambs, became diseased, costive, and undoubtedly affected with the worm in the stomach, and were rapidly dying off. I then tried, and with complete success, giving them ashea mixed with a small portion of salt, and immediately perceived an improvement in the health of my flock. Within forty-eight hours the alteration was evidently for the better; since which, I have scarcely suffered a single loss. The mixture may be one-fourth salt—fed twice a week.

I suggest these remarks hoping they may prove useful, as our flocks are suffering to considerable extent. Editorial or other remarks are invited upon the above mentioned subject. P. STANTON.

MISCELLANEOUS.

(From the New York Farmer.)

TRAITE D'AGRICULTURE.

Adopte au Climat du Bas-Canada.

Redige par Jus. F. Perrault, sur l'usage des etablissements d'education dans les Campagnes, &c. Quebec, 1831.

(Report to the New York Horticultural Society, and published by their order.)

"Si parfois en dissertant, theorie eclaire et instruit pratique, pratique aussi, par ses experiences, en remonte prou a theorie la savante." Olivier de Serres.

If, sometimes in discussion, theory enlightens and guides experiment, so too practice and experiment will conduct us up to the most learned theory.

This admirable sentence of the venerable agriculturist, who was honored with the friendship of his sovereign, Henry the Fourth, is exactly applicable to this Canadian writer, and will serve to indicate and define the nature and merits of his modest and valuable treatise. He also seems to deduce the philosophy of his art from long experience, teaching judicious practice and suggesting sound theory. And he illustrates his subjects with an enchanting simplicity, uniting so perspicuous a method, to such purity of idiom, that his work really deserves to rank among classical books,

and is well adapted to the rising generation, whom he wishes to see instructed in agriculture. To this end he recommends that to each parish school an experimental garden should be attached, and a small experimental farm be connected with each district seminary.

Mr. Perrault does not long hesitate in the adoption of a proper system of instruction, and he divides the study and practice of agriculture into two stages, which he terms the great and the small culture. He considers the latter alone as appropriate to the first periods of education, and classes in it the following garden cultivation of roots and useful plants.

1. The kitchen garden, for pulse and esculents.
2. Fruit garden.
3. Flower garden.
4. Botanical garden.
5. French, or ornamental garden.
6. English, or landscape garden.*

The above branches in approved language or technology, constitute the art of horticulture, which bears the same relation to agriculture, as the fine arts of poetry, painting and music, to eloquence, history and natural philosophy, the merits and charms of which they enhance and heighten. The second part of the work of Mr. Perrault is dedicated to the history of *la grande culture*, or an exposition of the profits and improvements, of agriculture, on the ground, that agriculture is the most honorable and independent of all arts; that it provides abundantly for all the wants of life, invigorates the body, and forms able and hardy defenders of the country; our author, following the favorable impulses for education now given to the Canadian youth, assumes the task of teaching and propagating the knowledge and profession of agriculture, in all its extent, and with the magnitude of improvement heretofore unknown in that country. Not unmindful, however, of the necessity of a clear and simple method by which to implant with more care and certainty his lessons and precepts, he considers the division or classification of the objects of agriculture into three parts, namely that of grain, or the cerealia, that of pasture, fodder and cattle, and that of fruit, garden stuff and wood as defective; and with much correctness, we think, establishes six great sections into which to include the theoretical elements and practical matters of the science under investigation. The following is the order in which he handles the subject:

1. The animals necessary in rural economy;
2. The buildings that must be provided;
3. The seedling, its management and periods;
4. The inclosures;
5. The manures;
6. Aratory implements, tools, utensils, &c.

These subjects are each taken up separately and treated in a masterly manner, without omitting the improvements of the age, or of different climates and other nations which merit to be noticed, and in many instances to be adopted. Under the head of animals, in the first section, we have been surprised, but pleased to find the author recommending highly, the erection of a pigeon-house on each farm.—There is so general, through unfounded a prejudice against the dove cot, as an expensive and detrimental appendage of country habitations, that we are glad to find a more judicious appreciation of it, coming from so respectable a quarter. The author proves that, with proper management, it becomes a source of great profit, which we have witnessed to be the fact in the south of Europe.

The operations and labors of agriculture, next engage the attention of our American Agronomer; and he directs or supports them by the most approved principles and experiments.

The first is that of *alternating* or intercalating the crops, as well as portions of ground selected for crops.

Another, the art of *assolement*, that is, a plan of

* The aim of the author being that of direct utility and prompt instruction, he confines his demonstrations to the first division only.

improving or correcting the soil, by well sorted mixtures of earth or vegetation, manures or lying fallow.

A third operation is, the steeping of seed grain; by which process it is preserved against *spur* or *smut*.

Another is the art of converting to some beneficial use, portions of moorish, marshy, and untillable land. Modes of *irrigation*, and lastly, the *labor of tillage*, the breaking and preparing of the ground, are treated according to their great relative importance.

It should be very difficult to make a selection or call attention to one more particularly, among the various subjects, which attest, either the excellent judgment, or experience, or literary acquirements of the writer. But we must advert to one passage in the article on *Standing Wood*, in which our farmers are proposed as models to the Canadians.

"In clearing your lands, leave standing such trees as are on the line of roads, and especially preserve a broad strip of wood land on the back of your estate. Our neighbors, the Americans, set us the example of clearing, more discreet than that of our own ancestors. They begin by cutting down brush and furze, and girdling the heavy timber, which they leave standing and sow around it, their grain, procuring, the first season, crops to subsist on, such as our forefathers could not obtain until several years had elapsed.

"Allow all fine trees to remain that are along the borders of roads or paths, or that keep in a line, though distant apart. Do not cut down trees in stony or sterile land; it will be time enough to do so when the trees can be replaced by something better; leave them on the banks of streams, where they oppose the ravages of freshets; leave them on the summits of hills, for they shelter the plain; keep some clumps here and there in your field, for they divert or attract the lightning from your dwellings; be in no haste to hew down and destroy these majestic and useful productions, unless you are certain of being amply indemnified for the exertion and expense that the long and difficult undertaking will cost."

The next aim of this instructive little volume, is to show the value, and manner of pasture or prairie cultivation. Canada is rich in prairies; and it is well known, that, when a French colony, that country flourished by the traffic in pelts and furs, furnished by her prairies. Meadows or grazing grounds could be advantageously and easily formed and encouraged from these; and the greatest advantages might be derived by regular annual crops. Our scientific and philanthropic writer demonstrates to his countrymen, that there are eight or ten several varieties of products, from which they may obtain gainful results, and which he invites them to try, on idle or imperfect grounds, instead of the one or two kinds of culture, to which they have attended heretofore. These are the Indian corn, clover, timothy, wheat, rye, barley, sainfoin, buckwheat, flax, beans, lentils, lupins, turnips, tobacco, potatoes, topinambours, *helianthus tuberosus*, &c.

Mr. Perrault terminates the second part of this work, by the diagram and rules of regulation of District Colleges or County Seminaries for the instruction of boys and youths in the higher branches of agriculture, or the practice of the art on a great scale; having for model in this respect the celebrated Agricultural and Horticultural Institute of Fromont, near Paris.

We understand that a Male and Female Orphan School on the Lancaster plan, is already founded in Quebec, and kept by the liberal provisions of the writer. That his humane feelings and virtuous deeds are not bounded by territorial limits, we have abundant proof from reports and correspondence with American horticulturists, who will, we feel, be much gratified to be united with him in his charitable and philosophical labours; and will be happy to disseminate his instructions among our own farmers and agriculturists.

FELIX PASCALIS, M. D.

Hon. Mem. Hor. Soc.

POISONED SHEEP.

A few years ago Mr. Tilden of New-Lebanon, N. Y. discovered that some of his sheep had died in consequence of eating a certain plant which sprung up early in the spring in his pasture, and which, on examination, proved to be the *Senecio obovatus*, called, sometimes, ragwort. Its deleterious qualities were analysed by the late Mr. Barnes, of this city, at the time, aided, I think, by his scientific associates in the N. Y. Lyceum of Natural History, but the particulars of that analysis I cannot now state. They were given to the public in the papers of the day. This plant, it may be observed, is not found in all places where sheep are kept, and hence the reason why its bad effects upon them have never been extensive. Though perhaps farmers would do well to look out for it in the spring of the year.

That the leaves of the *kalmia angustifolia*, or low sheep laurel bush, that grows in low springy places, are poisonous to sheep, if they eat them, has long been known. As an antidote for this, take for one sheep, as many corn cobs as you can hold in both hands, more if you please; boil them 15 or 20 minutes in as much water as will cover them, decant off half a pint of this water, and let the rest steep for further use, give this half pint, or as much of it as you thing prudent, when new milk warm, to your poisoned sheep, by means of a tunnel. If the weather is cold, put the animal under cover, in a warm place, in order to guard against the cold chill that will be apt to come upon it, sometime after this warm draught. It will soon be well; though perhaps you will have occasion to repeat the dose, possibly more than once, but take care not to overload its stomach, especially when you perceive it getting better.

[N. Y. Farmer.]

Prices Current in New York, April 7.

Beeswax, yellow 18 a 20. Cotton, New Orleans 104 a 113; Upland, 84 a 111; Alabama, 9 a 114. Cotton Baggins, Hemp, yd. 144 a 17; Flax 13 a 14; Flax, American, 7 a 8. Flaxseed, 7 bush, clean —; rough —. Flour N. York, bbl. — a 5.12; Canal, 5.87 a 6.12; Balt. Hwd-st. 6.25 a —; Rh'd. city mills — a 6.12; country, 5.00 a —; Alexandria, 5. — a 5.12; Fredericksburg — a 5.00; Petersburg — a 5.00; Rye Flour, 5.75 a 6.00; Indian Meal, per bbl. 2.75 a 2.87; per hhd. 14.00 a —; Grain, Wheat, North, 1.06 a 1.08; Vir. 1.00 a —; Rye, North, 78 a 79; Corn, Vel. Nor. — a 54; white, dry, 1.00 a 1.06; Oats, Sth. and North, 40 a 50; Peas, white, 1.00, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess 8.75 a 9.25; Pork, mess, 5.75; cargo — a —; Lard, 74 a 84; Pork, mess, bbl. 12.50 a 13.25; prime 10.50 a 10.674.

WHITE MULBERRY SEED.

Just received, direct from Europe, at the American Farmer Office and Seed Store, a supply of White Italian Mulberry Seed, warranted genuine and fresh, at 50 cents per ounce. Orders addressed to I. L. Hitchcock will be attended to without delay.

N. B. An ounce sent by mail will be charged with quadruple letter postage for the distance sent.

BANK OF MARYLAND.

Baltimore, Dec. 24th, 1881.

By a resolution of the Board of Directors of this Institution, the following scale and rates have been adopted for the government of the officers thereof in receiving deposits of money subject to interest, viz:

For deposits payable ninety days after demand, certificates shall be issued bearing interest at the rate per annum of 5 per cent.

For deposits payable thirty days after demand, certificates shall be issued bearing interest at the rate of 4 per cent.

On current accounts, or deposits subject to be checked for at the pleasure of the depositor, interest shall be allowed at the rate of 3 per cent.

By order, R. WILSON, Cashier.

BUFFALOE BERRY TREES.

A few more are engaged and will be received in a few days at the American Farmer Office and Seed Store. Price \$1 each.

THORN QUICKS FOR HEDGING

Just received at the American Farmer Office and Seed Store, from the extensive nursery of Joshua Peirce, near Washington, D. C. 10,000 Plants of the AMERICAN HEDGING THORN. They are put up in bundles of 200. Price \$5 per thousand.

LUCERNE AND WHITE MULBERRY SEED.

Just received from Europe a supply of Fresh Lucerne Seed of prime quality, which will be sold at market price; and also a quantity of White Italian Mulberry Seed fresh and of fine quality, at 50 cents per ounce. J. S. EASTMAN.

FRESH GARDEN SEEDS, AGRICULTURAL IMPLEMENTS, &c.

SINCLAIR & MOORE, Pratt street wharf, offer for sale, a complete assortment of Garden Seeds of the growth of 1881, warranted genuine of their kinds; particular care has been taken to obtain the very best, both of English and American Seeds, specimens of which may be seen growing near their store; among the English Seeds just received, may be enumerated:

Fine Early York Cabbage, fine Early George Cabbage, fine Early Wellington Cabbage, fine Early Sugar Loaf Cabbage, Ox Heart Cabbage, Early Battersea Cabbage, Green Savoy Cabbage, Drum Head Cabbage, Red Dutch Cabbage, Early Purple Cape Broccoli, Late Purple Cape Broccoli, White Broccoli, Common Scarlet Raddish, fine Early short Top Raddish, a superior article; Early Salmon Raddish, Late Salmon Raddish, Grand Admiral Lettuce, Tennisball Lettuce, Ice Lettuce, Lazy Lettuce, Corn Salad, Asparagus (Giant) Genuine Brussels Sprouts, Green Curled Borecole, Brown Curled Borecole, Sea Kale, Summer Spinage, Mangel Wurtzel Seed, White Clover, Luzerne, Perennial Rye Grass.

Together with a great variety of fresh and genuine Garden and Flower Seeds of other kinds, both European and American growth, for particulars, see Catalogues.

GRASS SEEDS.

Sapling Clover, Common Red Clover, White Dutch Clover, Luzerne, Timothy, Tall Meadow Oat Grass, Herds Grass, Rye Grass, Green Grass for Lawns, Cow Peas for Improving Land, also, Seed Oats.

IMPROVED PLOUGHS.

A large stock consisting of the different sizes, with wrought and cast shares of our New Model, not surpassed by any ploughs known to us. McCormick's Patent Ploughs, Wood's Patent cast share Ploughs, the Patent self sharpening Ploughs with steel points, this valuable principle of keeping its points always sharp without smith expense until from twelve to sixteen inches of a steel bar is worn away, recommends it strongly to the public. Barshare Ploughs for rough lands, Hillside Ploughs, Double Mould board Ploughs, Cast Iron Cary Ploughs, &c. Harrows of different sizes and constructions. Improved Cylindrical Straw Cutters, Dutton's Patent, Evans' and common Dutch Boxes, Wheat Fans, Corn Shellers, Steel Hay and Manure Forks, Hoes, Mattocks, cast steel Axes, Sockets and Strapped Shovels, Spades, Garden and Pruning Tools.

GARDEN AND FIELD SEEDS.

J. S. EASTMAN has in 120 bushels CLOVER, the most of which is prime, and 50 bushels of Cow PEAS, TIMOTHY, Tall Meadow Oat GRASS, and Urd SEEDS, and a small quantity of English Lawn Grass SEED. Also just arrived per brig Hyperion an additional supply of Fresh Garden SEEDS; among them are a variety of best Garden PEAS and BEANS. His assortment of Garden Seeds are probably equal to any in this city, and all fresh, and which he will sell on reasonable terms at wholesale and retail.

J. S. EASTMAN,

Pratt street, near Hanover.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—A small advance will be noticed in flour and grain. The wagon price of Howard street flour yesterday was 4.75, and considerable sales had been made from stores at our quotations, for cash. Sales of grain of all kinds have been made at quotations. Nothing else worthy of special notice has occurred.

TOBACCO.—Seconds, as in quality 3.00 a 5.00; do: ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for cigars, 6.00 a 10.00; yellow and red, 5.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a —. Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 312 hhd. Md.; 6 hhd. Ohio; and 3 hhd. Virginia—total 321 hhd.

Flour—best white wheats, fine, \$6.75 a 7.25; super Howard-st. 4.874 a 4.94 city mills, 4.75 a 4.874 on time, —; Susq. —; CORN Meal, bbl. 3.50; GRAIN, best red wheat, 85 a 95; white do 95 a 1.08, Susq. 85 a 98—Corn, white, 48 a —yellow 48 a —Rye, 66 a 67 —OATS, 32 a 33.—Beans, 75 a 80.—Peas, 65 a 70.—CLOVER—SEEDS 5.00 a 6.00.—Timothy. 2.00 a 2.50—ORCHARD GRASS 1.75 a 2.50.—Tall Meadow Oat Grass 2.00 a 2.50.—Herd's, 75 a 874.—Lucerne — a 374 lb.—BARLEY, FLAXSEED 1.50 a 1.62.—Cotton, N. Y. 7 a 9.—Up-land 8 a 10.—Tenn. 7 a 9.—N. Car. 8 a 9.—Upland 8 a 104.—WHISKY, hhd. 15p. 264; in bbl. 284 a 29 a —Wool, Washed, Prime or Saxony Fleece 49 a 57; American Full Blood, 40 a 45; three quarters do. 36 a 40; half do. 34 a 36; quarter and common do. 30 a 34. Unwashed, Prime or Saxony Fleece, 50 a 54; American Full Blood, 26 a 28; three quarters do. 24 a 26; half do. 22 a 24; quarter and common, 18 a 22.—HEMP, Russia, ton, \$225 a 230; Country, dew-rotted, 54 a 7c. lb. water-rotted, 7 a 9c.—Feathers, — a 35; Plaster Paris, per ton, 5.50 a —, ground, 1.50 a — bbl. Iron, gray pig for foundries per ton \$3.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.00 a 6.00.—Oak wood, 3.50 a 4.00.—Hickory, 4.50 a 5.00.

CONTENTS OF THIS NUMBER.

Editorial: Prolific Sheep; The Weather, Range of the Thermometer for Ten Years; Means for Destroying Ants; Farm School; Light Airy Soils may be too much Pulverized; &c. &c.—Four Systems of Farming Pursued for Twenty Years and the Results of Each—On Cheat or Chess in Reply to the article of Dr. Muse in No. 49, Vol. xiii, page 385.—Harrowing Meadows—On Wheat Degenerating to Cheat—On the Cultivation of Indian Corn—William R. Prince on the Varieties of Strawberries—Heating Hot-Houses and Green-Houses by Hot Water—Magnificent Cypress Tree—Letter from John Smith on the New Theory of Bots in Horses—Bad Effects of Using Liverpool Salt in Packing Butter, &c.—Recipe to Make Hop Beer—Diseases in Sheep—Review of Mr. Perrault's Traite D'Agriculture by Dr. F. Pascalis—Remedy for a Poisonous Vegetable Eaten by Sheep—Advertisements—Prices Current of Country Produce in the New York and Baltimore Markets.

EDITED BY GIDEON E. SMITH.

Published every Friday, (at the old office, basement of Barnum's City hotel), by I. IRVINE HITCHCOCK, on the following

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged by the year, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of this subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postal, and except communications intended for publication, and letters containing money.
7. All Postmasters are requested to act as agents for the Farmer; they are authorized to retain 2¢ for each new subscriber, and 10¢ per cent. on all other collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, APRIL 20, 1832.

DURHAM SHORT HORN BEEF.—We are much obliged to Mr. Barnitz, for the following account of the improved Durham short horn cow Ruby, which was slaughtered on the 3d of April, at York, Pa. Of the quality of the beef, Mr. Barnitz does not speak; but he very politely furnished us other testimony on that point, in the shape of a stout surloin roasting piece—such an one as would have dignified the head of Barnum's long table. The beef was excellent. We concur most fully with Mr. Barnitz in what he says of half blooded Durham short horns, as milkers; and these are within the reach of every body that owns a cow and is willing to raise a calf; for there are now few counties of the middle and northern states that do not possess a bull of that breed. One of the finest heifers we ever saw, is a half blood Durham short horn, by the celebrated bull Bolivar, out of a very fine common cow, belonging to the Editor of the Farmer. She is but eight months old, was taken from the cow when three days' old, fed on skim milk and soft food for six weeks; after which she was put in a common pasture with other cattle. She is uncommonly docile, and suffers herself to be handled, and brushed, of which she is very fond. All who see her, suppose, from her size and developments, that she is at least a year old.

Last February the Editor sold a half blood cow to a butcher, which was taken from a common pasture on the first of December, and fed for two months on corn meal and hay—a peck of corn meal a day and a feeding of hay night and morning. She had been kept as a common milch cow, for five or six years, and having gone dry it was concluded to make beef of her. Her net weight of beef, (the four quarters.) was 708 pounds, which come to forty-six dollars. Now when it is recollected that three times the feeding would not have made a common cow weigh over two-thirds as much as she did, the advantages of the improvement will be apparent. But we are detaining the reader from Mr. Barnitz's statement—

MR. SMITH: York, Pa. April 9, 1832.

Sir,—I promised to furnish you the weight and feeding of the Durham short horn cow Ruby, slaughtered here last week. This beautiful animal was imported by Col. Powel, and according to the English herd book, was eleven years old. She had not bred lately, owing to her great tendency to fat. In the beginning of December last I put her up to feed, she was fed on corn meal and cut corn fodder mixed and moistened, with a handful of oil meal and salt occasionally. The extent of her feed in meal did not exceed a bushel and an half a week; it was intended to have sent her to the Baltimore market, but by the middle of March, on a trial we made, she was found to be so over-loaded with fat, that it was thought impracticable to take her there; her weight was as follows:

The four quarters net,	Pounds.
inside fat	1,064
hide	151
	109

Her live weight exceeded 1500. Although fed for little more than three months, the coat of fat over the rump was full three inches thick. The extraordinary character in weight and fatness of this animal, can only be known to those who are acquainted with the comparative weights of cattle, male and female, and the usual time required to produce such results. The uniform opinions of farmers in this valley, who had examined Ruby, were, that no animal they had ever seen could compare with her in the valuable properties of easy keep and tendency to fat.

I had another animal, a young steer of the short horn stock, half bred, which was slaughtered lately, and as his weight was uncommon, I will state it with the mode of rearing and keeping. He was taken

from his dam, an ordinary native cow, at three weeks, from April until Dec. in each year he was kept wholly on the pasture ground, through the winter he was fed with hay and a small daily allowance of corn meal, barely sufficient to keep him growing; he was stalled the middle of last November, and slaughtered the first of February—his feed in that time was corn meal with cut straw twice a day, at the rate of a bushel and an half a week, a little oil meal and salt, with a few boiled potatoes occasionally, and as much hay as he would eat. His weight was—

The four quarters net,	Pounds
inside fat	918
hide	98
	125

In the years 1830 and '31, I had half bred steers on my farm that had been reared in the same manner above stated, and after being stalled and fed about two months, were slaughtered, the quarters of one at two years and six months, weighed 720lbs.—of the other at three years, 845lbs. When it is recollected that the best animals of our native stock, rarely exceed 800 in weight, unless over six years old and high fed for at least six months, the value of the short horn stock for the shambles is strongly exemplified in the above cases.

An intelligent correspondent of the Farmer, from Frederick county, Virginia, lately proposed an enquiry as to the milking properties of half bred short horns, which, to a certain extent, I can satisfy. I have had a number of half bred heifers, some were kept for the use of the farm, and their milk used in the mass with that of other cows. The milkmaid always reported that the milk of these animals was much richer and more abundant than that of the native stock, on making her general comparisons, but being satisfied with a general opinion and the striking external difference, no particular inquiry was made to ascertain specific values until last spring, when our convenience requiring it, we selected two young half bred cows, about five years old; their calves were taken from them when two months old and being then milked separately, they yielded each at the rate of ten pounds of rich butter a week for two months, not exceeding half a pound over or under, each week. The hot weather then came on, the pasture thinned and they were advancing in calf, their milking proportionately decreased, and they were no longer separately kept. Besides the pasture, they had a daily allowance of a quart of corn meal each. Two of my neighbours had obtained half bred heifers from me, and on making inquiry with them, they assure me their animals, on a separate trial, had produced for some months last season, each upwards of ten pounds of better per week. They are persons in whose statements I can place full confidence,

In giving you the above facts, I may observe that the animals slaughtered, were the only ones I had for that purpose in each year, and were not selected as specimens, and as to the milking I give the general opinion, drawn from the source most to be relied on, I mean the milkmaid, and I have also given you specific trials to a certain extent, made by particular observation, in reference to our own convenience, but not with a view to furnish extraordinary samples.

The whole of my experience on this subject goes to confirm an opinion, I have, on more than one occasion advanced. That the value of the improved short horn stock will be best elicited, improved and usefully extended by crosses with our best native stock. A cross with any animal, not worse than our own, is an acknowledged improvement, and a cross from a very superior stock must, in the nature of things, bring with it a proportionate advancement.

A gentleman in Virginia, to whom the agricultural community is already much indebted, I mean Mr. Meade, is now making the experiment to which I allude, and which in a general way, I have made to my own entire satisfaction. His intelligence and accuracy of observation will ensure to us a result, in the

course of two or three years, which I trust will end all doubts on this interesting subject.

Very truly yours, &c.

C. A. BARNITZ.

"STOP MY PAPER!"—Every publisher of a newspaper can collect, from his "pigeon holes," many a curious document, containing the above fearful mandate, either in terms or in substance. Sometimes it comes in so gently a garb that it does one's heart good to give it a hospitable reception; occasionally, also, it is accompanied by a salvo for the wound it makes, as follows—"I am pleased with your paper, but retrenchment in my out-goes is demanded by my in-comes."—"Necessity, not my will, consents." Then again a ponderous epistle, in a know-everything tone, and a wishing-to-know-nothing-more style, steps in, with a majestic mein, and long pre-ambulating phiz, and says, "*Stop my paper.*" I have thirteen volumes, have read them all—the subject is exhausted—nothing more can be written—nothing more need be read." But of all these, we have seen none burthened with more pregnant reasons for stopping "my paper" than the following, just received from a subscriber, at our office.

"Columbia, Missouri, March 27, 1832.

"To the Editor of the American Farmer:

Sir—I wish my name discontinued on your subscription list. I am pleased with the work, but it don't suit our western farmers—we wish something that will direct us how to farm it without labour or care.

"Yours respectfully,

Now there's a reason for you—if reasons for stopping a paper were as thick as blackberries, none more conclusive than the above could be found. But this, "*stop my paper*" is the great moral power that moves the world—the Archimedean lever. Talk not to us of the power of the press—it is a mere vicergerency—the captain general of all power is "*stop my paper.*" It makes opinions for you and makes you support them too; it makes men great and measures good; it commands the waves of public opinion to come thus far but no further; it seals up the mouth of the press and silences its trumpet tongue; it is omnipotent to make our fortunes or break our hearts; and therefore we would conciliate its forbearance. We therefore offer a reward of a gold medal, with appropriate designs, (consisting of a new fashioned printing press, surmounted by an Eagle, the tips of whose wings are firmly tied together with a band on which is written, "*Stop my paper.*") for a plan of conducting an agricultural paper which shall "direct us how to farm it without labour or care."

MEXICAN SEEDS—SISAL HEMP.—To the polite attention of Rubens Peale, esq. the Editor of the American Farmer is indebted for a variety of valuable tree, shrub, and flower seeds, brought from Mexico by H. Perine, esq. American Consul at Campechy. Mr. Peale has also sent us a specimen of the material from which Sisal hemp is made, being apparently a leaf of the Agave Americana. We have left the specimen at the office of the American Farmer for the inspection of the curious; and shall, as soon as practicable, publish the letter of Mr. Perine accompanying the seeds, with the botanical names of the seeds, Mr. P. having only been able to give us the local Spanish names.—We take this occasion to solicit like collections from gentlemen who travel or reside abroad. Mr. Peale and Mr. Perine will accept our thanks for the articles sent us, and the assurance that such of them as can be grown in this country shall be faithfully attended to. The Editor hopes Mr. Perine will be able to send him a hive of the Stingless bees of Mexico—should he do so, he would confer a great favor on us and the public.

AGRICULTURE.

(For the American Farmer.)

WHAT IS CHEAT OR CHESS.

By David Thomas, of Cayuga county, New York.

Botanists, the only persons qualified to describe this plant, and to show its affinities to other plants,—have agreed to call it *Bromus scaberrimus*, being one of sixty-six enumerated species which constitute that genus. Botanists also agree that it is a perfect plant, growing from its own seed; and not a monstrosity depending for its existence on the disease of another plant. It is a native of Europe, and appears like many other weeds to have been naturalized through the carelessness and inattention of farmers.

Others,—who appear to be not botanists,—have arrived at different conclusions. Some of the discrepancies among this class of observers, will be exhibited in the following extracts:

1. "I repeat my firm conviction that cheat or Darnel is degenerated wheat." American Farmer, Vol. 13, page 385.

2. "In Scania, as formerly in Britain, rye was supposed to degenerate into [cheat.]" Loudon's Encyclopedia of Plants.

3. "My oats appeared to be utterly destroyed.—However about a month afterwards I observed abundant signs of renovation in the multitude of young shoots springing up, not out of the earth, but from the joints of the [oats, which when ripe proved to be] all cheat." American Farmer, Vol. 13, page 337.

4. "The circumstance of fine timothy meadows turning to cheat—can be attested by men of the first character and information." American Farmer, Vol. 13, page 371.

From these conclusions, I wish to express my dissent,—courteously and respectfully, however,—remembering that though I differ from those witnesses on one subject, I probably agree with them on twenty other subjects. All of them, without doubt, believe what they have written; but the testimony when brought together, proves more, (I should think) than any one of them would be willing to adopt as his own belief. According to their evidence, cheat springs from no less than four different kinds of plants, not one of which belongs to the same genus that cheat does; and to show (what has never been shown) that one plant may degenerate into another genus, would comparatively be a trifle compared with those metamorphoses.

Those who have not carefully studied the nature and affinities of plants, can hardly comprehend the extravagance of such a doctrine. With the nature and affinities of quadrupeds, our farmers are better acquainted. It may be difficult to select cases from the animal kingdom, exactly parallel to this quadruple transmutation into cheat; yet as these four kinds of *gramina* belong to the same Natural Order in Botany, we may choose four kinds of quadrupeds from the same Natural Order in Zoology, all of which shall be as likely to degenerate into a fifth kind, as it is for wheat, rye, oats, and timothy all to degenerate into cheat. What say you to the notion of bears, wolves, seals, and tigers, all occasionally turning into opossums—I know you revolt at such absurdity; and so do botanists revolt at the absurdity of four different plants, all turning into cheat.

Some who are not prepared for so many transmutations, may possibly say "because some of these witnesses are mistaken, it follows not that all are mistaken; and one of those plants may produce cheat, although the other three kinds do not produce it."—Go on then, and make your choice. What is the result? you reject three witnesses, not less credible than the fourth whom you believe.

A candid farmer comes forward, desirous of information. The statements are laid before him, and after a time for deliberation, he might with much fitness, speak as follows:

"Here are four witnesses,* all telling different stories of the origin of cheat. It is not likely to originate in so many different ways. No other plant (or animal) have I ever known to originate in more than one way. If there is but one way, then three of your witnesses are in error. If they have mistaken that one way, then they are all in error.

"I have never seen a plant spring from seed of another kind. If a lamb-quarter comes up in a hill of Indian corn, I am bound to use my best reason, if I undertake to account for its appearance. Is it more likely that the lamb-quarter grew from a grain of corn than from its own seed incidentally dropped on the ground? and is it more likely that cheat grows from a grain of wheat than from its own seed incidentally dropped on the ground? A man who had never heard before of either transmutation, would undoubtedly treat both stories alike.

"But these four plants have been cultivated in other countries, where they would be quite as likely to turn into cheat, as they would be in the United States. Does wheat turn into cheat in Europe? As far as appears, wheat, in that quarter of the world, was only supposed to turn into rye; and Linnaeus who knew more of plants than all the old Greeks and Romans put together, caused an essay to be written for the purpose of exploding those doctrines. In the state of Maine, wheat was also supposed to turn into rye; but in the middle portions of the United States, where millions of bushels of wheat are annually produced, we never heard of such a thing.

"Now what inferences are we to draw from these facts? Do the farmers in Europe make closer observations than our farmers, when they say that wheat turns into rye? Or are our farmers the better observers when they say that wheat turns into cheat? If these notions were founded in nature and on observation, such a difference would be most extraordinary; but not extraordinary at all if they are only founded on tradition, some person in Europe broached the one doctrine, and some person in America, the other,—their neighbors listened—all talked—but none scrutinized as became the votaries of science, and each notion, respectively became national.

"Does rye turn into cheat? On this point we hear nothing, except from other countries. But if it turns into cheat in Europe, it must also turn into cheat in America, for our climate differs not enough to nullify such a law in vegetation, and this proves either, that European farmers pretend to observe what does not exist; or that American farmers on this point, do not observe at all.

"Does oats, or timothy turn into cheat? No news from Europe under this head. These supposed transformations are either novel or local, I shall leave them as I found them.

"Here then it appears that the notion of vegetable metamorphoses, though widely extended, varies so much in the details, that its advocates in different countries, yield no support to one another. On the other hand, and I call your attention to the contrast, botanists of every nation, however, much they may differ in manners, politics, and religion, however remote and unknown to one another,—all agree that those notions are absurdities. Now which of these two classes ought we to believe, those who have studied and observed? or those who adhere to the tales of their childhood?

"The most respectable testimony shows that on some

* Or classes of witnesses.

† "The benighted peasantry of Europe imagined that wheat was converted into cheat in poor soils by regular gradations: that the first change was into rye, then from rye to barley, from barley to lolium, and from lolium to bromus or cheat. In this country however the disciples of the doctrine have spiritedly abridged it, by discarding all those intermediate stages of transmutation, as mere surplussage!"—Darlington's Flora Cestræa, page 14

farms for many years together, no cheat has been found among the wheat, I refer to American Farmer, Vol. 13, page 231, where 'a very respectable farmer' told the Editor that not one blade of cheat had grown on his farm in thirty years; and also to the farms mentioned by Col. Fenwick where cheat was never known to grow. Now I know that cheat will grow on wet land and on dry land, on rich land and on poor land. I know that it grows in grain fields, in unploughed stubble fields the year after, along the fences in the edge of the grass, and round neglected heaps of manure; and in all those places year after year, unless pains are taken to destroy it. But here are three farms that produced none in thirty years. Every farmer knows that we have all kinds of weather in less than thirty years, that our variable climate affords. In all that time however no wheat was hurt bad enough to turn into cheat. How was this? Did not nine-tenths of the farms in the neighborhood produce cheat? Yes. Were the winters harder on these farms than on the other three? No. Then it could not be the weather? What then caused the difference? Can there be a doubt? The editor's acquaintance 'had usually wheat of the first quality' which is not raised by slovenly; the other 'gentleman' was 'a neat farmer'; and the custom of Col. Fenwick's friend was 'to have [his seed wheat] all well picked by the hands.'

"But you wish me to account for the cheat that appeared at last. There are many ways in which it might come, and therefore (not being present) I cannot say in which way it did come. The horses or cows may have gathered cheat in a neighbor's field or at his grain-stack, and scattered it after their return. That this was so in one case, appears probable from Col. Fenwick's statement, who found the cheat in a last year's stubble field "in tufts or bunches."

"Whoever has been in the habit of observing how weeds are introduced particularly into new countries, will not be surprised at the appearance of cheat in grain-fields, however much surprised he may be that intelligent farmers should be at a loss on such occasions. Col. Fenwick's acquaintance "could give no reason for it, but expressed some astonishment." The sour dock, the mullein, and many others might be mentioned which come in quite as unaccountably as cheat. How has it happened that cockle which accompanies our crops so pertinaciously, has never been ascribed to a metamorphosis? I know not why you do not consider it a degeneracy as much as cheat.

"Finally, the doctrine of transmutation, derives not its strength from close investigations, from well attested facts, or from sound arguments, but from impressions made on the mind when it was not in a state to assert its own independence. The ignorant are always in that state as well as the boy who listened and believed, blending the idea with his first germs of knowledge; and sometimes in such cases an old error has been preferred to a new truth?"

(From the Genesee Farmer.)

CULTURE OF RUTA BAGA.

A wish to have others profit by my experience, induces me to send you, Mr. Editor, half a sheet of remarks on the culture of Ruta Baga, as a food for domestic animals. I have cultivated from half an acre to three acres of this root every year, for thirteen years in succession, and feel competent to give rules for its culture, and confidence in recommending it as a valuable and profitable crop.

The soil must be rich and dry; and the more it inclines to a sand loam the better. Clay is the worst, and wet soils will not answer at all.

Preparations.—My general practice has been, to manure well a piece of pasture, or clover ley, from which the hay has first been cut, plough it handsomely over, and harrow it well.

* No term of years was mentioned by Col. F. the word "never" being used.

Sowing. See.—I sow in rows, at two and a half or three feet, with a drill harrow. The sooner the preceding operations succeed each other the better. I have sown broadcast, but the expense of thinning and culture is increased. A man will drill in, three or four acres a day. We allow a pound of seed to the acre, though half this, properly distributed, is enough. Sow from the 26th June to the 10th July.

Culture.—I use a cultivator, that may be graduated to the space between the rows, drawn by a horse, as soon as the plants can be well distinguished. This is repeated in a few days, back and forward and the implement carried so close to the drills as to leave only strips of from four to ten inches, which are then thoroughly cleaned with a skim-hoe, and the plants thinned to eight or ten inches distance. The cultivator soon follows, for a third time, and if necessary, the skim-hoe, when the crop is generally left till harvest. The great aim is to extirpate the weeds, and to do this while they are small.

Harvesting.—is postponed as long as the season will permit. The roots are then pulled up and laid on the ground, the tops of two rows towards each other. The pullers are followed by a man or boy with a bill-hook, who with a light blow cuts the tops as fast as three or four can pull. Three men will in this way harvest, of a good crop, 300 bushels in a day. The tops are gathered into heaps, and taken to the yard in carts, daily, for the stock, until they are consumed. An acre will give from five to ten cart loads of tops. The roots are piled on the field, if dry,—the pits are two and a half feet broad, covered with straw and earth, and as the cold weather approaches, with manure, to prevent frost. N. B.; with a crow-bar, make one or more holes on the crown of the pit, which must be left open, to let off the rarified air, and prevent the roots from heating.

Use.—The tops serve for autumn. As soon as the mild weather of spring will justify, I break through the frost, and take the contents of a pit to my barn, and cover the roots with straw or hay. From thence they are fed to my stock, being first chopped up with a *snick* (Dutch meat chopper) or spade. They are excellent for sheep, especially for ewes that have young,—and hogs and horses eat them freely. Steamed, they are used in the north of England, for horses as a substitute for grain. I have fattened sheep and bullocks upon them with profit. They constitute, particularly from February to June, an excellent culinary vegetable. A bullock will thrive fast upon two bushels a day, and will consume hardly any hay, and requires no drink.

Product and cost.—My average crop has been 600 bushels per acre, though others have raised much heavier products. The cost, in manure and labour, when they are secured for winter, has been from two and a half to three cents per bushel.

N. B. Cattle or sheep, fattened upon this root, should be kept from eating them for eight or ten days before they are slaughtered, otherwise the meat will have an unpleasant flavor. J. B.

(From the Library of Useful Knowledge.)

PLANTING.

(Continued from page 19.)

CHAPTER VII.

Of the progressive increase of size or produce of wood in different species of forest trees. Of the mode of valuing plantations—present value—prospective value of certain individual trees which have attained to great maturity. Of the products of plantations, and of the terms used by foresters to denote these products.

The following statements will shew that the cost of preparing the different soils of the nature and properties described, as before noticed in this Essay, and numbered 3, 4, 5, 6, for planting forest-trees

in the best manner, that is to say, by paring and burning the coarse surface, trenching, draining, and manuring when expedient, and afterwards taking a green fallow, or ameliorating esculent crop as a precursor to the forest-tree plants, will be repaid by a judicious choice and culture of the kind of crop best adapted to the soil, and the produce of which is in a greater local request. It may be perhaps unnecessary to observe here, that the nature of different varieties of soil, comprehending their texture, chemical properties, the nature of the subsoil or mineral stratum on which they are incumbent, and their local climate and site, have all a great and active influence in determining the probable cost of the culture of the crops best adapted to be raised or cultivated upon them.

The local demand for the produce of particular species of husbandry crops have also a considerable influence on the comparative marketable value of these crops: hence it is impracticable to make a perfectly clear comparative estimate of value of different crops in the present case applicable to every different soil, unless those different circumstances alluded to under which each is placed were accurately known; but which, under ordinary circumstances, may be readily ascertained in the locality. The potato, Swedish turnip, cabbage, carrots, mangel wozel, khol rabi, tares, or vetches, &c., have each a superior local value, according to circumstances, besides that of their absolute or intrinsic value generally, as crops in husbandry. We may take the first-mentioned crop, therefore, as an example, its culture, comparative value as a fallow crop, and the marketable value of its produce being, perhaps, more generally understood than that of the others. The soil is, taken of a second-rate quality, worth a rent of from fifteen to twenty shillings per acre.

	£	s.	d.
Paring and burning	1	16	0
Trenching	4	0	0
Draining or grubbing up	0	15	0
Potato sets or seed, 16 bushels			
at 1s. 6d.	1	4	0
Planting, ditto	0	16	0
Hoeing and earthing up	0	16	0
Reaping	1	10	0

Produce

6 tons of potatoes from a virgin soil, prepared by paring, burning, and trenching, at 44s. 13 4 0

Balance remaining £2 7 0 after preparing the soil in the best manner for planting, to go towards paying the purchase of plants and planting, as in the case of lands belonging to the crown, or, in other cases, towards the charges of rent, interest of capital laid out in fencing, payment of tithes, taxes, and other public imposts.

The above mode of preparing the soil would afford seventy-three days' work an acre to labourers, at two shillings a day, chiefly in that portion of the year when labour is least in demand, viz. from the middle of September until April. Were fifty acres set apart every year on an average from each of the royal forests, and planted according to the plan now recommended, there being twelve royal forests situated in the counties of Southampton, Gloucester, Essex, Northampton, Berks, Chester, Oxford, Durham, and Kent, labour or work alike profitable to the unemployed and to the country, would thus be given to six hundred men in the parishes and neighbourhood in which such lands are situated. The profitable results, as regards the attainment of the principal object in view, viz., timber of the best quality the soils employed are capable of affording, and that in the largest quantity on a given space of land, and in the shortest period of time, have already been discussed and shewn to follow the mode of culture described.

There is stated to be but one-sixteenth part of the timber used at the royal yards supplied by the exten-

sive forests of the crown, the other fifteen-sixteenths having to be purchased from private estates, and from abroad. There is good reason to believe the planting and rearing of oak and of hard wood in general have not kept pace in England with the consumption of that article. The policy of depending on foreign countries for an article of such paramount importance as that of timber for naval and civil architecture, need not be discussed in these pages. But let us consider, however, whether the forests abroad are always to remain unexhausted for our demands, or the supply of our wants herein, while the neglect of planting continues;—we believe not; and that other countries will, at no very distant period, be in the condition that the North American states now are, as regards the supply of timber from their natural forests. That condition is described by an accurate observer, A. H. Millhouse, a citizen of the United States, and the translator of Michaux's "North American Sylva." His words are, "Though three-fourths of our soil (North America) are still veiled from the eye of day by primeval forests, the best materials for building are nearly exhausted. With all the projected improvements in our internal navigation, whence shall we procure supplies of timber fifty years hence for the continuance of our marine? The most urgent motives call imperiously upon government to provide a seasonable remedy for the evil: from a government like ours, which is a faithful expression of the public will, and which has no concern but the prosperity and honour of the nation, and from which prospective wisdom is reasonably demanded."

It is observed by Mr. Loudon, in his Encyclopædia of Gardening, that in planting, as in every other branch of culture, extraordinary profit is attended by extraordinary production, which soon sinks the market value of the article; and also, that in a commercial, free, and highly taxed country, whenever any article attains a very high price, substitutes are found at home, or imported from abroad, so that no particular crop should be considered the best to cultivate without exception, nor extraordinary profits calculated prospectively on any crop whatever.

This opinion, however just, as applied to annual or biennial crops, is but slightly applicable to forest planting, and, indeed, not at all as regards the planting of waste or inferior soils, because, as before stated, the value of a crop of timber or of a forest plantation depends not alone on the relative or positive worth of the timber itself, as is the case with the kinds of crops alluded to, but also greatly on the circumstances of improving the climate and the soil of the adjoining lands, fitting them for the growth of the more valuable husbandry crops, and the rearing and fattening of the more valuable domestic animals, which, without the aids that judicious forest-planting confers, would be withheld, and the land continue waste and unprofitable to the owner and to the nation.

The high perfection to which some individual trees of the different species have attained, is an object of much interest to the profitable planter of forest-trees as well as to all; for who does not derive pleasure of the highest order from the contemplation of woodland scenery? The limits of these pages admit but of a few short notices on this point.

The oak which was felled in April, 1791, in the park of Sir John Rushout, Bart., at Northwich, in Worcestershire, and judged to be about three hundred years old, and perfectly sound and fine timber, measured,

	FEET.
In circumference, or girth, at five feet from the ground	21
Smallest girth	18
Length to the branches	30
Solid contents of the body	634
Estimated timber in the arms	200
Cubic feet of timber	834

The celebrated Fairlop oak, in Hainault Forest, Essex, is stated to have measured at three feet from the ground about thirty-six feet in circumference, and the extremities of the branches gave a circle of three hundred feet.

In Welbeck Park an oak is mentioned as one hundred and eleven feet in height, seventy feet up to the branches, and the circumference at the bottom twenty-one feet.

In Holt Forest, near Farnham, an oak in 1759 girthed thirty-four feet at seven feet from the ground; in 1778, or in nineteen years, it had increased only half an inch.

At Oakley, in Bedfordshire, the seat of the Marquis of Tavistock, there is an oak now in perfect health, which contains about five hundred and twenty-seven cubic feet of timber, and the branches overspread a space of five thousand eight hundred and fifty superficial feet of ground.

Mr. Rookes, in his account of the oaks of Welbeck, mentions that an oak cut down in Birchland, had the letters I. R. more than a foot within the tree, and about a foot from the centre. It was supposed to be two hundred and ninety-two years old. It was perfectly sound, and measured about twelve feet in circumference.

The oaks in Woburn Park have already been alluded to as being trees of remarkably fine growth. There is one situated in the park, to the east of the Abbey, which measures ninety feet in height, the main stem of which is fifty feet, and head above the forks forty feet. This tree contains four hundred and ninety-two cubic feet of timber. The circumference at four feet from the ground is fifteen feet two inches.

There is another fine oak, in perfect health, which contains six hundred and sixty-six cubic feet of timber, on the west of the Abbey. The circumference near the ground is thirty feet, and the height to the boughs sixty-six feet. Four of these oaks measures two thousand and sixty-eight cubic feet of timber, after deducting one-eighth, the allowance for the bark. The variety of oak in this park is chiefly of that called the foot-stalked oak, *Quercus robur pedunculata*.

The elm may be placed next to the oak for utility and ornament. The wych elm is the most hardy.—There is one mentioned by Evelyn in Sir Walter Bagot's Park, in Staffordshire, which measured forty yards in length, and at the stool seventeen feet in diameter. The weight was estimated at ninety-seven tons.

The chestnut (*Castanea vesca*) may dispute the order of precedence with the elm, but that it is less hardy, and requires a milder climate, and more genial soil. On the banks of the Tamar, in Cornwall, there are some of the finest specimens of this tree. A very remarkable tree of this kind in England is at Tortworth, in Gloucestershire. A figure of it is given in the Gentleman's Magazine for 1766, p. 329. The age of this tree is supposed to be upwards of one thousand years. In 1791 it measured forty-four feet four inches in circumference. The soil in which it grows is described as being a soft loamy clay.

The finest tree on record of the beech appears to be that in Woburn Park, situated on a rising ground south of the Abbey, in a fine grove of that species of tree. The height of the tree at this period is one hundred feet. It has a clear and nearly equally cylindrical stem of the height of fifty feet, and the top, which is of the most graceful proportion in every respect, occupies fifty feet in height. The solid contents are four hundred feet. The soil in which this remarkable tree grows has already been described.

Of the larch (*Pinus larix*), the finest specimens have been produced in the extensive woods of the Duke of Athol, at Dunkeld, in Perthshire. One tree of fifty years of age measured eighty-six feet and a half in height, and contained eighty-two feet of solid wood. There are instances of the larch attaining to upwards of one hundred feet in height, and of twelve feet in circumference.

The specimens of the silver fir (*Pinus picea*) at Blair Adam before mentioned are remarkable for size and symmetry; but the finest specimen, perhaps, in Britain grows in Woburn Park. The height of this tree is one hundred and ten feet, and the circumference at four feet from the ground, ten feet six inches; the solid contents or cubic feet of timber contained in it being three hundred and seventy-five feet. The age of the tree is about one hundred and ten years, and the average increase of height has, therefore, been exactly one foot every year, and the periodical produce of timber upwards of three or nearly three and a half, cubic feet per annum. This appears to be the largest periodical increase of timber, continued for so many years, that is recorded.

Three black Italian poplars, planted by the present Duke of Bedford in 1806, are now of twenty-three years growth, and measure as follows:—

No.	Height	Feet.	Inches.	Solid Contents.
No. 1.	Height	81	0	60 feet.
	Circumference or girth	6	7	
	The stem at fifteen feet			
	4 girth,		193 in.	
	Ditto at sixteen feet			
	above 4,		131 in.	
No. 2.	Lost its top in a blast in 1828.			
	Measures—Height	23	0	45 feet.
	One-fourth girth	163	0	
No. 3.	Height	26	0	46 feet.
	One-fourth girth	20	16	

These trees were planted on a light soil, but well prepared by trenching.

The products of plantations have already been incidentally mentioned. The terms used by practical men to denote these products are not the same in all places, but frequently the same term is used in different counties to mean different products, and sometimes a term used in one place is totally unknown in another. As in legal instruments, relative to the transfer or holding of woodlands, the misunderstanding of these terms has not unfrequently been the cause of serious inconvenience, it may be of use, therefore, to enumerate these names and synonyma.

Butt-end.—That portion of the stem of a tree which is situated nearest to the root.

Bush. in gardening and planting, applies exclusively to every perennial ligneous plant (mostly with several stems from its root), which in its natural state seldom attains to a timber size, e. g. having a stem girth six inches. We understand currant-bush, gooseberry-bush, rose-bush, holly-bush, laurel-bush, &c., but never oak, elm, or ash-bush, &c. The limits between a shrub or bush and a tree cannot be more precisely defined than by the girth or diameter of the stem, under ordinary circumstances of culture, never attaining to, or exceeding the above dimensions.

Barins.—Horse-faggots, bound with two withers or weefs, chiefly used by bakers for the oven.

Binders.—Long plant shoots of hazel, ash, &c., which have pliancy and length enough for binding down newly-plashed hedges, making close fences round rabbit warrens, sheep-folds, hurdles, and binding faggots.

Bolt.—The stem, trunk, or body of a tree, after it has attained to upwards of eight inches in diameter, or to that size which constitutes timber. *Vide timber.*

Cane, Smart hoops.—Shoots of the hazel, six feet in length; they are cleft for hoops, and are used by sugar-refiners for their earthen pots; also for salmon kits, small tubs, and other purposes of the cooper.

Cion, sion.—Properly a shoot one or two years old, or a cutting of a branch of that age for the purpose of grafting. Used sometimes to denote the shoots of a copice stool. (*Worldie*.)

Coopers' ware.—The lower ends of ash poles cut from six to eighteen feet long, according to the length of the shoot. They are cleft for the use of the cooper, wagon-tilts, &c.

Dead woods.—The same as *kiln-faggots*, which see.

Edders, Roders.—The same as *binders*, which see. *House faggots.*—The long branches of the hop and fenice poles. The tops of hedge-stakes, coopers' ware, &c., bound with one *withers* or *weef*. *Vide Barins.*

Kiln faggots. The lowest product of a plantation, being made of the brushings of the wood previous to the commencement of cutting the copse, and are made of brambles, dead-wood in the stubs, and refuse of plants on the surface of the ground; used for burning lime, bricks, &c.

Girt, girth, of the bole.—Is sometimes understood as the circumference of the stem, but more generally as the fourth part of the circumference or side of the square of the stem. Gilpin (in "Forest Scenery," vol. i. p. 59 and p. 141) uses it in the former sense, when he says, "at Wimby, near Hitchin Priory, Herts, a chestnut-tree, in 1789, girthed somewhat more than fourteen yards." He could not mean the tree to square forty-two feet in the side. Grose also appears to use the term girt in the same sense, when speaking of the limb of a chestnut-tree at Fortworth, in Gloucestershire:—"One limb measured twenty-eight feet and a half in girth, five feet above the crown."—*Philosophical Account*, p. 176. Of the same tree he says the stem "girthed fifty-one feet at six feet from the ground." And Professor Martin quotes from an inscription placed under an etching of it, stating that "the tree measures nineteen yards in circumference," which sufficiently proves the sense in which the word "girt" is understood by the above. The word girt is doubtless derived from girth, *quasi*, to gird or encompass, notwithstanding its general acceptance is to denote the fourth part only of the circumference, or side of the stem when squared.

Log.—The trunk or body of a timber-tree prepared for the sawyer.

Maiden-plant.—A young tree raised from seed, in opposition to one produced from an old root or stub.

Moat, in Devonshire, is the same with stool in other counties. *Vide Stool.*

Nuscent stem.—The development of the stem of a seedling plant, just previous to the exhibition of the first leaves.

Poles.—Shoots from coppice-stools on the stems of young trees of various lengths, according to the purpose for which they are wanted; those for hops should be from ten to eighteen feet long.

Red-harten.—A discoloration of the central point or heart-wood of a tree, most frequently arising from bad management in the early culture of the tree, by neglecting to prevent or remove every cause of *stunting* the growth in the earliest stages of culture. An ungenial soil produces this defect likewise.

Sapling.—A young tree under six inches diameter at four feet from the ground, in some places it is used to denote a young tree raised immediately from the seed, which is then termed a *maiden-tree*; in others it is considered a young tree, the produce of a coppice-stool, old root, or stub, and, by a few, a long young tree the produce of either.

Sears, or low faggots.—Made similar to *barins* (which see), but longer, and generally bound with three withers: used for sheltering farm-yards, hovels, and for various other purposes.

Fall cutting.—A term used to denote the period of cutting a copse, which varies from twelve to eighteen and thirty years, according to the soil or produce of the copse, and the judgment of the proprietor.

Shaky-shakes.—The fissures, cracks, or longitudinal openings often found in the timber of trees which have suffered from injudicious culture and an ungenial soil.

Shoot.—Indifferently used for the young, lateral branch of a stem, or that of a coppice stool or stub.

Sprig of wood.—In some instances understood as the branches of a tree. *Vide act.*

Standard.—The shoots of a coppice-stool, selected from those cut down as underwood to remain for large poles or timber-trees.

Slivery.—Small, straight shoots of large ash, &c.,

cleft into hoops for the purposes of the cooper. Vide *Cane and Coopers' trade*.

Stem.—The body of a tree in all its stages of growth, from a seedling to that of a full-grown tree. See *Bole*.

Stole.—The first stage of growth of a shoot emitted or sent out from the sides of a root or stub or coppice-stool. See *Tiller*.

Stool.—The root of a tree which has been left in the ground, the produce of another tree, or shoot for saplings, underwood, &c.

Stub.—See *Stool*.

Sucker.—Properly the young plants sent up by creeping rooted trees, as in the poplar, elm, &c.—These suckers are oftentimes very troublesome, under the circumstance of their often appearing in lawns, or grass fields near a mansion. The term sucker is also applied in some places, to denote the side shoots from a stool or stub. See *Stool*.

Tap-root.—The first root produced by the seed of a tree, which descends at first perpendicularly into the earth, and supports the plant until the proper leaves are produced, which, in their turn, assist in the production of fibres or proper roots.

Tellow.—See *Tiller*.

Tielar.—See *Tiller*.

Tilar.—See *Tiller*.

Tiller, or Teller, a shoot selected for its superior strength and healthy habit from those produced by a coppice-stool to stand for a timber-tree, or for maiden bark, if an oak, to stand for the space of two or three falls.

Timber.—When the wood of a stem or branch of any species of plant attains to the dimensions of 24 inches in circumference, or upwards of eight inches in diameter, it is termed *timber*. Those plants whose wood never, or but seldom, attains to the size now mentioned, come under the denomination of shrubs or bushes, poles, &c. Hence the popular distinction between *tree* and *shrub* or *bush*.

Here it may be proper to state the usual mode of determining the quantity of timber in trees. The customary method of measuring timber is by *girting* the piece in the middle, i. e. from the *butt-end* or root to the top, where it terminates, at 24 inches in circumference. The mean between these two points affords the nearest average of the circumference or diameter. The fourth of this circumference, squared and multiplied by the length, gives the contents.—Thus suppose a stem or bole measures 75.4 inches in circumference, or 24 inches in diameter, and 15 feet in length: then $75.4 \div 4 = 18.8 \times 18.8 = 353.44$ $5 \times \text{length } 15\text{ft.} = 36\text{ft. } 9.3 \text{ inches.}$ But by taking 1-5 of the circumference and twice the length, the result is more accurate, thus— $75.4 \div 5 = 15$; then $15 \times 15 \times 30\text{ft.} = 45\text{ft. } 10.6$. But it need hardly be remarked that neither the fourth nor the fifth of the circumference can be used to determine accurately the cubic contents, although in common practice the first is considered sufficiently so. The nearest approach to the truth of the contents is to multiply the square of the circumference of the stem by its length, and that multiplied by .07958 will give the number representing the solid contents, thus— $75.4 \times .079574 \times 15\text{ft.} = 47 \text{ } 1.5$. Or square the diameter thus,— $24 \times 24 \times .7854 \times 15 = 47 \text{ } 1.5$. But whatever mode of measurement and calculation be adopted, an allowance must be made for the thickness of the bark. Different species of trees differ much in this respect, and the age of individuals of the same species differ likewise, according to the age of the tree. It is customary in the oak, elm, and trees having a rough bark, to deduct at the rate of one inch for every foot of quarter girt, that is, if the circumference is four feet, the quarter girt is one foot or 12 inches; and the allowance for the bark will reduce it to 11 inches. Less than one foot quarter girt down to six inches, the allowance is made at the same rate, and so for any increase above the example quoted. In ash, and other trees having a thin bark, the allowance is half an

inch for every foot of quarter girt. In Scotland, according to Mr. Monteath, the rule is to allow for bark two inches in circumference from 12 to 24 inches; three inches in a circumference of from 24 to 36; from 36 to 48, four inches; from 48 to 72, five inches; and above 72 inches in circumference to deduct six inches.

Trunk.—The body or stem of a forest-tree. See *Bole*.

Withers or weefs.—The plant shoots of hazel, ash, willow, &c., for binding the spray and prunings of trees into faggots, brooms, &c. See *Binders*.

CHEAT.

MR. SMITH:

As regards cheat or chess, that there has been so much said about in the Farmer, it is the undoubted opinion of the farmers in this section of country, (Elizabeth city, N. C.) that it is degenerated wheat. The first of my noticing it was about ten years since in a field of my own. The wheat that I sowed I am satisfied was clear of cheat, and as a proof of it the field was clear of cheat, or the wheat in the field, except a part where my horses broke in a number of times and eat it down, about the month of April, and two other low places that were difficult to drain, consequently was not well drained. These places were full of cheat. Since then I have observed where creatures had broke in and eat, and trampled, at a particular season, about April or March; if the wheat is early, it is ruined by cheat, also low wet places. I have stated the opinion of the farmers in this quarter to you, merely for your own satisfaction, as I thought you appeared to be considerably interested in the subject, though they may be far from being conclusive. I am, respectfully, yours,

E. B.

HORTICULTURE.

(From Bridgman's Young Gardener's Assistant, 2d Ed.)

MANAGEMENT OF GREEN-HOUSE PLANTS.

Having already prepared sufficient matter for a book of double the size of the former edition, I am compelled to be brief in my observations on such ornamental plants as are generally cultivated in hot and green-houses. This description of plants embraces those which are collected from various climates, and thrive best in a temperature and soil similar to that in which nature first produced them: hence they who propagate exotic plants, must provide suitable composts, and also separate departments, where the different degrees of heat may be kept up, according to their nature and description. Some of these are raised from seed soon in the spring, others by layers, suckers, and offsets detached from the old plants, and many by slips and cuttings planted at different seasons of the year, according to the varied natures and state of the plants. Many kinds require the aid of glass coverings and bottom heat, created by fresh horse dung, tan, &c.

Were I to attempt to give directions for the propagation of all the varieties of useful and ornamental exotic plants cultivated in various parts of our country, it would require an entire volume. The catalogue of green-house plants alone kept by the enterprising proprietor of the Linnean Botanic Garden at Flushing, occupies fifty pages of close matter; it would therefore be impossible to do justice to the subject, without dividing upwards of two thousand varieties of plants into classes, according to their varied natures, and treating of them under distinct heads; I shall therefore not attempt, in this edition, to write largely on the subject.

In order to render this little work useful to those who may wish to avail themselves of the pleasure of nursing some of those beauties of nature in their own dwelling houses, during the most chilling days of our severe winters, and to afford amusement to the ladies,

at a season when our gardens are deprived of their loveliest charms, I shall discuss some essential points connected with the management of green-house plants, in as explicit a manner as possible.

The following hints were selected for the first edition of this work, and appear to the author to embrace the most important points connected with the care of plants in the winter season.

The generality of those denominated green-house plants, and which are kept in rooms, should be placed where they can have the light of the sun, without being exposed to frost. Air, heat, and moisture are essential to the growth of plants, but these should be given in due proportions, according to circumstances. In frosty weather they should be kept from the external air, and watered very sparingly. When water is necessary, it should be applied in the morning of a mild sunny day. The plants should be kept free from decayed leaves, and the earth at the tops of the pots should be sometimes loosened to a moderate depth, and replenished with a portion of fresh compost.—Plants kept in private houses are often killed with kindness. The temperature of a room in the winter need not be more than ten degrees above freezing. If plants are healthy, they may be kept so by attention to the preceding hints, unhealthiness generally arises from their being subjected to the extremes of heat, cold, or moisture, or from total neglect.

In order that the ideas above advanced may be duly considered, it may be useful to indulge in a more minute description of the nature of plants, and to show in what manner the elements operate upon them. It is an acknowledged fact, that the roots of plants require moisture, and therefore penetrate the earth in search of it, and that the plants themselves are greatly nourished by air, and spread their branches and leaves to catch as much as possible its enlivening influence. Light also is so far essential, that there can be no colour without it; witness the blanching of celery and endive, where the parts deprived of light become white; place a plant in almost any situation, it will invariably show a tendency to turn to the light; the sun-flower is a striking example of this singular fact. As the leaves supply the plant with air, and the fibres of the roots supply it with nourishment, to strip off the leaves, or destroy the fibres, is to deprive it of part of its means of support. Having shown that air and water are essential to vegetation, and light to its colour, experience shows us that heat, in a greater or less degree, is not less necessary to the growth of plants; it is therefore requisite, that in taking plants into our rooms, we should attend to these particulars.

The internal structure of plants is composed of minute and imperceptible pores, which serve the same important purpose in the vegetable as veins in the animal system; they convey the circulation of the sap in the former, as the veins do that of the blood in the latter; but it is by no means settled as yet by physiologists how the food of plants is taken up into the system and converted into their constituent parts.

From the foregoing considerations and facts, it is evident, that, as air, heat, and moisture are each essential to vegetation, that water should only be given in proportion as heat and air are attainable. In the summer season green house plants may be exposed to the open air, from the early part of May, until the end of September, by being placed on the ledges of windows, or on a stand erected for the purpose, or in the absence of a nursery bed of flowering plants, they may be introduced into the regular flower beds, to supply the place of such plants as may wither and die in course of the summer, by being turned out of the pots and planted, or plunged in the earth with the pots.

In the heat of the summer season, plants generally require water every evening, and in the absence of dew, the earth about their roots may sometimes need a little early in the morning; but experience shows, that the roots of plants more frequently get injured from being soddened in water, than from being kept moderately dry. Having before intimated that exotic

plants will generally thrive best in a temperature and soil similar to that in which nature first produced them, it may be necessary to remind the reader, that we have the means of attaining suitable composts from our own soils, and from sand, decayed leaves, rotten dung, and various kinds of peat, bog, and rock mould; these ingredients being judiciously mixed and prepared, may be suited to all the various kinds of plants, and should be used as occasion requires. As the roots of plants make considerable growth in the course of a summer, it will be necessary to examine them by turning them out of the pots, this may be done early in September, at which time all matted and decayed roots should be pared off, and the plants shifted into larger pots which being filled with suitable compost, and watered, will be ready to be removed into the house on the approach of cold nights, which is generally early in October.

Green-house plants require an annual pruning, and should be occasionally headed down, in order that their size and appearance may be improved; the best time for doing this is soon after they have done flowering, and while they are in a growing state. Having endeavoured to furnish my readers with the artificial means of preserving tender plants in a climate foreign to that which nature has provided for them: I shall call their attention to another class of plants well calculated for the windows of a house.

I allude to the many beautiful varieties of the Chinese Chrysanthemum; these are frequently cultivated in pots, and may be taken from the ground and put into pots even when in full flower without injury, and when the bloom is over, returned to the garden; and in the spring following, they will throw up an abundance of suckers.

The following list taken from Mr. Prince's catalogue, consists of some of the best varieties of the Chrysanthemum, and are entitled to a place in every flower garden. In October and November, when the waning year has left our gardens comparatively cheerless, these with their various colours, deck them out in gaiety, and prolong the semblance of summer. They are perfectly hardy and will brave our severest winters.

Chrysanthemum sinense.

- | | |
|--|-----------------------------------|
| 1 White quilled | 23 Quilled light purple |
| 2 Pale buff, or orange | 27 Expanded do do |
| 3 Changeable, red and orange flower on the same plant | 28 Quilled yellow |
| 4 Purple | 29 Double Indian yellow, superb |
| 5 Lilac quilled | 30 Double Indian white, superb |
| 6 Rose coloured, or pink | 31 Brown purple |
| 7 Lilac and white, changeable; the flowers vary to lilac, to white with a purple centre, and to pure white | 32 Early blush |
| 8 Dark crimson, or Spanish brown | 33 Golden lotus |
| 9 Straw coloured quilled | 34 Quilled purple |
| 10 Golden yellow | 35 Starry purple |
| 11 Tasselled white | 36 Park's small yellow, beautiful |
| 12 Superb do | 37 Quilled salmon |
| 13 Semidouble quilled do | 38 Semidouble quilled pale range |
| 14 Paper do | 39 Two coloured red |
| 15 Quilled flame yellow | 40 Curled buff, or salmon |
| 16 Sulphur do | 41 Large lilac |
| 17 Superb clustered do | 42 Late pale purple |
| 18 Small do | 43 Two coloured incurved |
| 19 Single flame do | 44 Blush ranunculus |
| 20 Quilled pink | 45 Late quilled purple |
| 21 Semidouble quilled do | 46 Tasselled lilac |
| 22 Quilled orange | 47 Tasselled yellow |
| 23 Semidouble quilled do | 48 Yellow waratah |
| 24 Early crimson | 49 Pale lilac |
| 25 Curled lilac | 50 Large buff, superb |
| | 51 Barclay's |
| | 52 Aiton's |
| | 53 Sabine's |

Chrysanthemums may be propagated from seed and cuttings, and each plant will produce several

suckers, which may be separated every spring; as the flowers are liable to be injured by the rain in autumn, it is advisable to take up a few plants and place them in a light room or green-house, which will preserve them for some time.

Many people keep their late blooming plants in the house through the winter; this is a bad practice, as the heat and want of air will exhaust or destroy the plants altogether. If the flowers fade before hard frost prevails, it is best either to plunge the pots into the ground with the plants, or turn them out of the pots, and plant them with the balls of earth entire to the borders of the flower garden. Early in May, such as may be intended for potting the ensuing season, should be divided at the roots, if not potted, and planted, each kind separate. One single stem is sufficient for a moderate sized pot, if the object be to have bushy plants; but if showy plants are desired, one of each of the varied colours may be selected for each pot, which should be sufficiently capacious to hold them without crowding them, as this will cause the plants to grow weak and slender. If this happens early in the summer, a stocky growth may be promoted by clipping the tops, and they will bloom in great perfection at the usual season.

MISCELLANEOUS.

Snake Bites.

Mr. Smith: *Morgan county, Georgia.*

Sir—I doubt whether the following reflections on snake bites are applicable to the Farmer—you will be the best judge—if they are not, they may amuse you in some of your leisure moments. It appears to me that as the farmer himself, his servants, and his stock are all liable to be bit by snakes, it would be well to know what to do in such cases. There are not many snakes in our country that are poisonous.—The rattle-snake is, perhaps, the most so of any of them. What is said of the bite of a rattle-snake applies equally well to all that are poisonous.

Many remedies are highly prized, in different families, for the cure of snake bites; one only has acquired any thing like sufficient celebrity, to be worth notice. By a great many persons, the spirits of hartshorn is thought infallible. I have seen a number of persons who imagined themselves safe from snake bites whilst they had a phial of it about them; and, perhaps as a specific, no remedy was ever less applicable for an evil—no hope, more groundless, than that hartshorn is an antidote to a snake bite. Nothing, it is said, is ever too ridiculous for a philosopher to believe. This is one of the grand lights the science of chemistry has given to the healing art—all know the acidity of vinegar is destroyed by adding hartshorn to it—the powerful acid of aqua-fortis is converted into mild saltpetre by adding potash to it; and, says the chemist, the poisonous acidity of a rattle-snake's poison is destroyed by mixing it with hartshorn. This remedy being so generally popular, and recommended by physicians, I shall devote some time to show it good for nothing as a specific, and I hope remove all confidence in a remedy so insignificant. Admit the poison of a snake to be acid—it requires the absolute mixing together of an acid and alkali to make a compound, possessing qualities different from either. A person is bit on the hand or foot, he is directed to wash the part with hartshorn, and to take fifteen or twenty drops every two hours or so. Of the external application, more hereafter—I speak of what is taken internally only, at this time. How long, I ask, would it require for a dose of hartshorn, taken into the stomach, and the poison of a snake bite on the foot, to come together? To make this harmless compound, the hartshorn must be digested and mixed with the blood, carried to the heart, and, by the arteries be conveyed to the part. Before it would get to the poison would not a dose or so of hartshorn, when mixed with the whole mass of blood, in a man, leave so small a

quantity to go to any particular part that no good could be expected from it.—Would it not require so long a time to get there as to destroy all hopes of any benefit to be derived from it?

Again—Is it not presumable that the hartshorn would have its qualities altered before it got out of the stomach. The stomachs of almost all men are more or less disposed to acidity. So soon as the hartshorn touches any acid, it would be no longer hartshorn. Have we any proof that any quantity of acid or alkali, taken into the stomach, would make the whole mass of blood acid or alkaline? If it be used simply as a stimulant then it is not a specific. But is the poison of a snake acid? No confidence should be placed in the remedy until we are satisfied that the poison of a snake is acid. No chemist can, by any chemical experiments, tell the difference between a drop of rattle-snake poison and a drop of mucilage of gum-arabic. I have tried many experiments to detect any acid, but could detect none.

So far I have treated of the reasonableness of the remedy. What I now say I state as facts. In a large new ground, on the river I had cleared, there was an unusual number of rattle-snakes. One very large one, while extended on the ground, had his head cut off with an axe. He was not injured in any other part. By squeezing the poison bags on each side, I collected several drops of the poison.—This was the pure poison; it came out of the holes in his poison fangs; it was about the colour but rather more fluid than good olive oil. I collected it on a goose quill tooth picker. I applied a small quantity to the palm of my hand; it not producing any sensation, I applied it to the back of my hand; it there producing no sensation; I now protruded my tongue and dropped one drop on the point of it. I felt a sensation immediately. I carefully washed my mouth and hands; the taste was peculiar; it produced a sense of warmth; a kind of heat, accompanied with a feeling of tremor. Finding the heat and tremor increase, I became uneasy, and rode home quickly; for now, when alarmed, I was anxious to apply hartshorn, although I had no confidence in it before. Some hartshorn and water were held a considerable time in my mouth, and I thought the pain rather increased. It was now sufficiently painful to be unpleasant. I now washed my mouth with olive oil and sweet milk, which gave relief. An unpleasant sensation, however, continued for several hours, before it totally left me. That night my sleep was much disturbed, and I awoke several times with a burning in the stomach, which was relieved by drinking a cup of sweet milk. This, however, I should say might not have been produced from the poison. I was in bad health and troubled with acid stomach, eat no supper; and the burning of the stomach may, and probably was, produced from acidity; something may be allowed for conceit. My principal object was to know, if the poison was acid; and I can state, positively, that I did not discover one particle of acidity. This, to my mind, proves beyond all doubt that rattle-snake poison is not acid, and that hartshorn administered under such a belief is useless. But it may be said by you, they have cured, and seen others cure, rattle-snake bites with hartshorn. The remedy is almost infallible; none ever died that used it. In answer to this, I will state a few cases. A negro man was brought to Doctor Grimes, bit on the thumb, a tight bandage being tied round his arm, his hand and arm below the bandage much swollen; he appeared to be in great pain, and the place the snake bit him still bloody. The doctor cut across the wound, applied hartshorn, externally; directed it to be given internally, and loosed the bandage. The moment the bandage was loosed, the negro became very sick, vomited very much, but in a few hours was well. They killed the snake, and brought it also; a tolerably large rattle-snake. Some time after that, one of my negroes was bit; having no hartshorn, strong lye was used; the symptoms and recovery were just as the

case above. When I began the practice of physic, I had several cases of snake bites; they were all treated with hartshorn, and all recovered. I supposed it a certain remedy. Walking with a gentleman in his field, he trod on a rattle-snake, he was without shoes, and the snake bit him in the hollow of his foot; he was very much alarmed; appeared to be in great pain, and vomited much; he was very faint, he could not walk, yet would not agree I should leave him to go for help to get him home. As he begged for a remedy, and seemed to think, I, as a doctor, ought to do something, I brought my hat full of water, washed the wound, and put a chew of tobacco to it, trying it on with my handkerchief; we waited several hours, when he became easy, and we walked home. A chew of tobacco was, in this case, just as good as hartshorn. Some time after this, travelling in the upper parts of this state, I come up to several men on the road, one appearing very sick; I inquired the cause, they showed me the rattle-snake they had killed and the place the man was bit, on the ankle; he was very sick, covered with a cold sweat, and appeared in the *extremest* pain, vomited much, and greatly alarmed; the whole limb was much swollen, got worse very fast, and in a little time I really thought the man must die; and as he gathered from my companion that I was a physician, he begged very much that I would give him relief: the only thing we had like medicine was a phial of essence lemon; as he was very faint, I directed him to smell it, and as he was greatly alarmed and begged so much for help, to pacify him and quiet as much as possible his alarm, I told him to drink it all, and it would cure him; he did so. After several hours he began to mend, and when I left him, I considered him out of danger. I have never heard of this man since, but I left him rejoicing that he had been accidentally found by a doctor who had a sovereign remedy for snake bites, and although I tried to convince him, nature, and not essence lemon, cured him; yet so satisfied was he that it was an antidote, that he begged for the phial and label, saying he would have it re-filled and always keep it about him, and in this case I have no doubt it was just as good as hartshorn.

The following case is related in a letter from John G. Knaief, M. D. I was called nine years since to a girl about six years of age, in the town of Troy, who was bitten on the ankle by a rattle snake, and at the time I visited her first the purple swelling was extended over the whole leg and thigh to the abdomen, with a high fever and some convulsions. I immediately applied a blister over the whole ankle, just covering the two punctures, occasioned by the two teeth at once, and directed camphor given internally, which removed all the symptoms, by degrees, in forty-eight hours, without the least bad consequence.—Here, we have worse symptoms than I have ever seen, removed with camphor.

My brother, riding home, one evening, had his horse bit on the leg by a rattle-snake; he with difficulty got home, and soon fell in the yard, and appeared very near death. My father had great confidence in a remedy called squirrel ear. As the night was dark and windy, the weed could not be found. A number of negroes were started into the woods with directions to taste every weed, and bring home all that were bitter, hoping to have this particular one among them; but when the large pile was examined, no squirrel ear could be found; and as the horse appeared so near dead, it was thought useless to try any more to find the squirrel ear. The family went to bed, leaving him to die. The negroes, however, boiled a number of these bitter weeds and bushes, and applied them to the bite. Late in the night, a horse was heard walking in the yard; to the surprise of all, the almost dead horse was well, walking about. In this case, had the squirrel ear been found, it would have been considered a sure cure, equal to hartshorn. From these cases it will appear that the rattle snake bite runs through nearly the same symptoms under

any treatment of specifics. Numerous cases that are recorded in books, are of a similar kind. Where nothing is done to the injury of the patient the symptoms and recovery are nearly alike in all. Hence, we may explain why we have so many certain remedies recommended for the cure of snake bites. It matters not what is used, the patient is expected to die. If he recovers, under any treatment, the remedy used is thought a sure cure. Olive oil was once a celebrated remedy; it went out of use; but we have it again brought into notice by Mr. Miller. He says olive oil taken inwardly, in the quantity of a few spoonfuls, and applied also to the bitten part, has proved itself fully adequate to the worst of cases, if timely exhibited. Snake weed in infusion and applied externally; chicken foot grass with salt and spirits applied to the wound; salt and lemons; the juice of garden rue, plantain, fern, tobacco, and lunar caustic, applied to the wound, are all recommended as cures. Many other remedies are advised by authors. When we shall properly ascertain the true nature of snake bites, we will find they have poison of sufficient strength to throw the functions of a man in *great, very great disorder*; to make him very sick, cause great pain, to make him sick almost unto death, but seldom to kill. When a snake bite is fatal, death is immediate; death takes place, for the most part, before any remedy can be applied. I have seen a considerable number of cases of snake bites; I have never seen a case but what recovered. The symptoms of all the cases I have seen have been nearly alike under every treatment. I know of no cases on record but what recovered, if the patient lived long enough to use any remedy, except three, and all three of these cases were from confined snakes; in these it appears the snakes scratched the part with their teeth more than wounded, by biting. The bite from imprisoned snakes, it would appear, inflicts a more deadly wound, and produce different symptoms from such as occur from the snake in his natural mode of living; and although we may hear of many deaths from snake bites, yet when we will properly investigate we will always find they are from hearsay; bring men to what they have seen and not what they have heard, and we will find very few, very few, almost none, ever die from snake bites, and death in those few cases is always immediate. I have inquired of a great many old men who settled the frontier parts of this state where snakes were numerous, and the hunting life they lived exposed them to be bitten, but never have heard of a snake bite but what recovered if the person lived a few moments; and of the number of deaths any person who will make careful inquiry will be surprised to find that a rattle-snake so seldom kills that his bite should scarcely be considered as dangerous.

The symptoms which follow a snake bite are truly alarming; the pain is felt immediate and very severe, the head becomes giddy, nausea, and often vomiting soon follow; the pulse is full, strong, and somewhat irregular; the swelling begins at the wound and very soon extends up the limb acquiring a size that we would scarcely think it capable of attaining; the countenance exhibiting the greatest appearance of distress, and sooner or later copious sweats; after which the pulse generally becomes weak and languid, the skin becomes cold, there is a shaking of the whole frame, a chattering of the teeth; the sighs and groans of the patient indicate immediate death. The symptoms varying, much in violence and duration, gradually disappear after the swelling subsides, and itching, often accompanied with a burning, takes place around the wounded part, and sometimes the wounded part becomes a bad ulcer. I have never seen bad ulcers occur except in cases where strong lyce poultices had been used. These are the worst symptoms I have seen result from snake bites. Most generally severe pain and some swelling, of ten or twelve hours' duration, are all the ill effects that follow. To these symptoms others are added by authors, which I have

not seen, such as the eyes becoming suffused with blood, copious bloodsweats, bleeding from the nose, eyes and ears, yellowness of the skin, and death.

Treatment. In treating a snake bite I consider the long list of specifics that might be collected as not only useless, but worse than useless; many of them very injurious. While time is wasting with imaginary specifics the unhappy patient is suffering with the prolonged symptoms of perhaps the most painful affection to which the human body is subject; much pain and suffering will be prevented if we will throw aside the old fashioned notion of the certain death which is to follow a snake bite, without the use of some of those certain specifics, and proceed without delay to do what is in our power to effect with certainty, the mitigation of symptoms. There is perhaps no affection, to which the human body is subject, of equal violence and severity, that admits of relief so speedy and certain, when we direct our remedies to effect the objects in view, the speedy relief of pain and suffering without wasting time with those wonder-working remedies. I have never bled in a case of snake bite, but the fullness of the pulse, heat of the skin, and giddiness of the head, would seem to indicate it; where a sinking of the pulse, nausea, &c. did not soon follow. We are generally directed to enlarge and deepen the wound with a knife or lancet. Do we not thereby risk inoculating the part still deeper with the poison? This, I think, is rendered probable by the following circumstance. A negro man was brought to Doctor Grimes with a snake bite on the thumb; the doctor deepened the wound with a scalpel, washed it with a sponge and warm water, and applied hartshorn. A little while after, I dilated a sinus on a negro man's arm, which I had daily dressed for several weeks; I used the same scalpel, water, and sponge; the arm swelled very much and was excessively painful all that day. I have no doubt that the knife or sponge communicated the poison to the ulcer. I would advise the wound to be well washed with soap and warm water; after which, if the symptoms are very severe, the part should be burnt deeper than the wound, with a hot iron, or, in its place, caustic; as the above case related satisfies me that the small quantity of poison remaining in the wound, may continue and increase the pain. I have only used the hot iron once; in that case the patient scarcely appeared to feel it. In most of cases, however, I should think it unnecessary. After the wound is well washed, apply a poultice, (corn meal); this is the important remedy, worth all the rest together; nothing that we can use gives such quick and great relief; it should be large, sufficient to cover the whole limb; a small poultice of common size is doing nothing—as soon as it becomes cool, remove it, and apply another equally large.—Those who have not seen it tried will scarcely believe it possible that a relief can be so speedily obtained as it is by the use of these mammoth poultices which I recommend. Almost every person bitten by a snake, thinks he does well to tie a tight bandage above the wound. Medical authors direct it—this greatly, very greatly increases the pain and swelling, without doing any good. Whenever I have been called to a case and found the limb bound with a ligature, I have removed it immediately, giving the patient notice that they will experience a sudden increase of sickness, and that the swelling will rapidly extend up, as it happened. The first time I loosened a ligature, the patient, from feeling a quick increase of sickness, feeling the blood pass up the veins, and seeing the swelling rapidly extend upwards, was greatly alarmed, conceiving I had let loose the poison, and that it was running up so rapid that death would be immediate. When the swelling extends up the limb and great tightness is produced, the part above the poultice should be rubbed freely with lardum and oil. In every case I have used it, the patient has expressed great relief, and requested its continuance.

The stoutest hearts, and bravest men are horror

struck and alarmed when bit by a poisonous snake.—The very general idea of certain death, which is expected to result from it, together with the alarming and painful symptoms, produces such a terror, that, in weak and timid minds, fear will help to increase danger. Laudanum and spirit not only produces ease, by allaying the irritation produced by the poison, but they are also important to brace the nerve and elevate the mind, above that point of fear, which in some cases is almost sufficient to produce death itself.—With this view laudanum should be given freely, forty drops, followed in an hour or so with forty more, will not be too much; as the pulse sinks and the patient becomes covered with cold sweat, give brandy toddy or wine freely, they will at such times bear large quantities with safety. The constant sickness and vomiting, which occur in some cases, are very troublesome; the patient throwing up every thing he takes. In such cases a large mustard cataplasm gives more relief than any thing I have tried. It should also be considered important to cheer the drooping spirits of the patient, informing of the fact, that very few instances can be found of persons living sufficiently long to get home or have any thing done for them, but what recovered—that it was common to suffer great pain but still recover.

The above plan of treatment, if it should appear somewhat out of the common course, I hope will not be considered the less valuable. It has been my lot to prescribe for a considerable number of snake bites, and what I have stated is the result of experience; and although numerous instances may be related of persons dying from snake bites, yet when the question is put, did you see it, it will almost always prove to be from hearsay, and the few that have died, as I have stated, have, with very few exceptions, died almost immediately.

ROBERT R. HARDEN.

Prices Current in New York, April 14.

Beeswax, yellow 18 to 20. Cotton, New Orleans, 104 a 115; Upland, 84 a 111; Alabama, 9 a 114. Cotton Bagging, Hemp, yd. 14 1/2 a 17; Flax 13 a 14 1/2; Flax, American, 7 a 8. Flaxseed, 7 bush. clean —; rough —; Flour N. York, bbl. — a 5.25; Canal, 6.18 a 6.43; Balt. Hwd-st. 5.37 a 5.43; Rhd. city mills — a 6.12; country, — a 5.25; Alexand'a, 5.31 a 5.37; Fredericksburg — a 5.18; Petersgr, — a 5.25; Rye Flour, 3.75 a 4.00; Indian Meal, per bbl. 2.75 a 2.87; per hhd. 13.50 a 13.75; Grain, Wheat, North, — a 1.10; Vir. 1.03 a 1.10; Rye, North, 78 a 79; Corn, Yel. Nor. — a 56; Barley, .88 a .90; Oats, Sth. and North, .41 a .48; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess 8.75 a 9.25; prime 5.25 a 5.75; cargo — a —; Lard, 7 1/2 a 8 1/2; Pork, mess, bbl. 12.50 a 13.25; prime 10.50 a 10.87 1/2.

AGRICULTURAL BOOKS

For sale at the American Farmer Office and Seed Store.

The AMERICAN GARDENER'S CALENDAR, adapted to the climates and seasons of the United States, by Bernard McMahon. Price, \$4.50.

A GUIDE TO THE ORCHARD AND KITCHEN GARDEN, by George Lindley, C. M. H. S. Price \$6.

NATURAL SYSTEM OF BOTANY, by John Lindley, F. R. S., L. S., & G. First American edition, with an Appendix, by John Torrey, M. D. Price, \$2.75.

BUFFALOE-BERRY TREES.

A few more are engaged and will be received in a few days at the American Farmer Office and Seed Store. Price \$1 each.

THORN QUICKS FOR HEDGING

Just received at the American Farmer Office and Seed Store, from the extensive nursery of Joshua Peirce, near Washington, D. C. 10,000 Plants of the AMERICAN HEDGING THORN. They are put up in bundles of 200. Price 5¢ per thousand.

DURHAM SHORT HORN BULL CALF.

A full blood improved Durham Short Horn Bull Calf, of Gloucester, out of a first rate thorough bred Cow, four months old, well formed, of good size and points, for sale by the Editor of the American Farmer. Price, if immediately taken, \$150. Apply to I. I. Hitchcock, office of the American Farmer.

WHITE MULBERRY SEED.

Just received, direct from Europe, at the American Farmer Office and Seed Store, a supply of White Italian Mulberry Seed, warranted genuine and fresh, at 50 cents per ounce. Orders addressed to I. I. Hitchcock will be attended to without delay.

N. B. An ounce sent by mail will be charged with quadruple letter postage for the distance sent.

AGRICULTURAL IMPLEMENTS AND FRESH GARDEN SEEDS.

The subscriber offers at his store and manufactory, No. 36 Pratt street, between Hanover and Charles streets, a great variety of AGRICULTURAL IMPLEMENTS, consisting of his Patent Cylindrical STRAW CUTTERS; Gideon Davis' Patent PLOUGHS, with cast and wrought shares, and Castings for the same to supply those worn out; Substratum and Shovel Ploughs; Harrows; Robbin's Patent Corn Planter; Corn Cultivators, Corn Shellers; Wheat Fans; Wire Saws, Hay and Manure Forks, by the single or dozen; Grass and Grain Scythes; Grain Cradles; Hay Rakes, Mattoes; Picks and Grubbing Hoes; Weeding and Hilling Hoes. A variety of Garden and Horticultural TOOLS, &c. &c. Those articles manufactured by himself special pains have been taken to procure the best materials and to have the work executed in the best manner.

Also, a great variety of GARDEN SEEDS, both European and American, and all of last year's growth, embracing a great variety of Beans, Cabbages, Radishes, late Peas, Bene Seed, &c. &c. And the following FIELD SEEDS, viz: Tall Meadow Oat Grass; Lucerne, of Prime quality; Mangle Wurtzel, Ruta Baga; Large Yellow Pumpkin, by the quart or bushel; and White Italian MULBERRY SEED, of prime quality.

Ap. 20.

J. S. EASTMAN.

LUCERNE AND WHITE MULBERRY SEED.

Just received from Europe a supply of Fresh Lucerne Seed of prime quality, which will be sold at market price; and also a quantity of White Italian Mulberry Seed fresh and of fine quality, at 50 cents per ounce.

J. S. EASTMAN.

FRESH GARDEN SEEDS, AGRICULTURAL IMPLEMENTS, &c.

SINCLAIR & MOORE, Pratt street wharf, offer for sale, a complete assortment of Garden Seeds of the growth of 1851, warranted genuine of their kinds; particular care has been taken to obtain the very best, both of English and American Seeds, specimens of which may be seen growing near their store; among the English Seeds just received, may be enumerated:

Fine Early Rye Cabbage, fine Early Sugar Cabbage, fine Early Wellington Cabbage, fine Early Loaf Cabbage, Ox Heart Cabbage, Early Battersea Cabbage, Green Savoy Cabbage, Drum Head Cabbage, Red Dutch Cabbage, Early Purple Cape Broccoli, Late Purple Cape Broccoli, White Broccoli, Common Scarlet Radish, fine Early short Top Radish, a superior article; Early Salmon Radish, late Salmon Radish, Grand Admiral Lettuce, Tomnisball Lettuce, Ice Lettuce, Lazy Lettuce, Corn Salad, Asparagus (Giant) Genuine Brussels Sprouts, Green Curled Borecole, Roman Curled Borecole, Sea Kale, Summer Spinnage, Mangel Wurtzel Seed, White Clover, Lucerne, Perennial Rye Grass.

Together with a great variety of fresh genuine Garden and Flower Seeds of other kinds, both European and American growth, for particulars, see Catalogues.

GRASS SEEDS.

Sapling Clover, Common Red Clover, White Dutch Clover, Lucerne, Timothy, Tall Meadow Oat Grass, Herds Grass, Rye Grass, Green Grass for Lawns, Cow Peas for improving Land, also, Seed Oats.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—There is an improvement in flour and grain to a small extent. The wagon price of Howard street flour is \$4.87 1/2 and the store price as quoted. Our quotations of grain, embrace the general current rates. In other articles there is little to notice.

TOBACCO.—Seconds, as in quality 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a —.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 483 hhd. Md.; 26 hhd. Ohio; and 2 hhd. Virginia—total 511 hhd.

Flour—best white wheat family \$6.75 a 7.25; super Howard-st. 5.00 a 5.06 1/2 city mills, 4.87 1/2 a 5.00 a —; Susq. 5.00 a —; CORN MEAL bbl. 3 3/4; Grain, best red wheat, 90 a 1.00; white do. 1.00 a 1.10, Susq. 95 a 98—CORN, white, 48 a 50 yellow 50 a 51 1/2; Rye, 65 a 67 —OATS, 32 a 33.—BEANS, 75 a 80—PEAS, 65 a 70.—CLOVER—seed 6.00 a 6.50.—TIMOTHY, 2.00 a 2.50.—ONION GRASS — a —.—Tall Meadow Oat Grass, 2.00 a 2.50.—Herd's, 75 a 87 1/2—Lucerne — a 74 lb.—BARLEY, FLAXSEED 1.50 a 1.62—COTTON, Y. 7 1/2 a 9—LOU. 9 a 12 1/2—Alab. 8 a 10—Tenn. 7 1/2 a 9; N. Car. 8 a 9 1/2—Upland 8 a 10 1/2—WHISKY, hhd. 1st; 2d; in hhd. 58 a 29 a —.—Wool, Washed, Prime or Saxony Fleeces 49 a 57; American Full Blood, 40 a 45; three quarters do. 36 a 40; half do. 34 a 36; quarter and common do. 30 a 34. Unwashed, Prime or Saxony Fleeces, 30 a 34; American Full Blood, 26 a 28; three quarters do. 24 a 26; half do. 22 a 24; quarter and common, 18 a 22.—HEMP, Russia, ton, \$225 a 230; Country, dew-rotted, 5 1/2 a 6 lb. water-rotted, 7 a 9.—Feathers, 35 a 36; Plaster Paris, per ton, 4.00 a —, ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Sus. perton, 72.50 a 80.00.—Prime Beef on the hoof, 8.75 a 6.25.—Oak wood, 3.50 a 4.00.—Hickory, 4.50 a 5.00.

CONTENTS OF THIS NUMBER.

Editorial; Durham Short Horn Beef, Letter from C. A. Barnitz giving an Account of the Improved Short Horn Cow Ruby; "Stopmy Paper," Mexican Seed and Sisal Hemp; &c.—What is Cheat or Chess, by David Thomas of Cayuga county, New York.—On the Cultivation of Ruta Baga as Food for Domestic Animals, &c.—Planting, chapter vii; Of the Progressive Increase of Size or Produce of Wood of Different Species of Forest Trees; Of the Mode of Valuing Plantations, Present Value, Prospective Value of Certain Individual Trees which have Attained to Great Maturity; Of the Products of Plantations, and of the Terms used by Foresters to Denote these Products.—Wheat Degrading to Cheat—On the Management of Green House Plants, with Hints on the most Important Points Connected with the Care of Plants in the Winter Season, Varieties of the Chrysanthemum, &c.—Letter from Dr. Harden on the Bites of Poisonous Snakes; Manner of Treatment—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

EDITED BY GIDEON R. SMITH.

Published every Friday, (at the old office, basement of Barnum's City hotel,) by I. IRVINE HITCHCOCK, on the following

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged hythe year, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the AMERICAN Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

Copy-All Postmasters are requested to act as agents for the Farmer; they are authorized to retain \$1 for each new subscriber, and 10 per cent. on all other collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, APRIL 27, 1832.

STRAWBERRIES AND RASPBERRIES.—Mr. Theodore Sedgewick, in a communication in the New England Farmer, says—"Neither Baltimore nor Albany are supplied even with garden raspberries or strawberries. I speak of these cities because I know the fact." If Mr. Sedgewick will pay us a visit at the strawberry and raspberry seasons, he will find our markets as well supplied with both these fruits as those of any other city in the union—we will not except any. So plentifully are they supplied, indeed, it is a common thing for large quantities of strawberries to be taken hence to Philadelphia. We do not hesitate to say, that for both quantity and quality, there is no city better supplied than Baltimore with any kind of fruit. During the strawberry season, we can find at the different stands as many as a dozen varieties on the same day, pines, haultois, scarlets, &c. with their numerous sub-varieties. And as to raspberries, there is not a variety cultivated in the union with which our market is not supplied—Antwerps, English, and indigenous. How Mr. S. should have made such a mistake, in so positive a manner, ("I know the fact,") we cannot conceive. We know that such an impression prevails "down east," and extends even to our vegetable market; and it has been the cause of gardeners coming here to commence business—when they have found that they would only be "carrying coals to New Castle"—and had to return where they were more needed.

THE FARMER'S MONITOR.—The Editor of that truly excellent paper, the Lancaster Miscellany, in a letter to the Editor of the American Farmer, says that farmers in that part of Pennsylvania who cultivate Indian corn, are governed in planting by the putting out of the leaves of the locust, (the common yellow locust, *Robinia pseudo acacia*.) When they flower, it is summer, and clothing must be regulated; that is, you may then with comparative safety dismiss your flannel.

(From the New York Farmer.)

THE OX.

I accidentally read the annexed little anecdote which happened in 1759, in relation to that useful animal, the Ox, which I have translated, as I thought that it might be amusing to your readers.—You will please excuse the faults I have made, as the English is not my native language.

The Rhone in its rapid course, has formed considerable islands opposite to the village of Miribel in Bresse, in the department of Lain. Numerous droves of oxen and cows are led to pasture on these islands by children, who cross the river seated between the horns of the oxen.

"One day," relates De Sautiers, "taking a walk in that direction, I rested myself on the side of a hill to read. Some children were playing below me; they began to quarrel; from threats, they came to blows, and the weakest began to scream. One of the oxen which was upon one of these islands, raised his head, and after having looked a moment, swam and got to the shore, and came near the weeping child, and after having driven all the other children away, lowered his head so that the child could get upon it, and returned to the island and left him where he had been feeding; after which, he swam again, and carried away another child in the same manner. I saw him afterwards go to his pasture.

"Convinced as I was, by many examples, of the graditude of animals, I soon suspected the cause of this singular fact; but notwithstanding, I resolved to be certain of it. I descended the hill and came near the other children, whom I questioned, and they an-

swered me, that the first child carried away, was the boy who took care of the ox, and that the other was his brother.

"Being anxious to enquire of the child himself, I called him, and promised him a reward if he would come. He got on his ox and came to me and said he loved his ox dearly; that they always slept together; that he took good care of him, and often divided his breakfast with him. While speaking to me, he caressed the ox; then speaking to it, he said, 'do not fear, your little beloved will give you a good feeding to-night, for having saved him from those who were beating him.'

"I then gave him the promised reward, when, pleased with having so much money, he turned round to the ox, which had been, mean while, very patiently waiting for him, saying, 'here ox, here my dear, here is something that will buy you bread for a long time.'

A. P.

(From the Genesee Farmer.)
USE OF PLASTER ON CORN.

Milton, February 14, 1832.

MR. N. GOODSSELL.—Through the medium of the Genesee Farmer, I wish to communicate a fact to the farming community, from which some may, perhaps, profit. It came under my observation last summer, and is simply this. I planted with Indian corn a field which contained about five acres. The seed was all wet with soft soap and rolled in plaster, except a few rows through the middle of the field, which was planted dry. Both kinds were treated alike, and occupied the same kind of soil, (sandy loam) and the whole field had a gentle declination to the sun. The difference between the two kinds was very great. That which was prepared with soap and plaster was a fair crop; that which was planted dry did not yield at the rate of three bushels to the acre—stalks in proportion. I am convinced that plaster would have no enemies if every one would give it a fair trial.

I am a practical farmer; and intend, occasionally, to let you hear from me.

W. P. W.

(From the New York Farmer.)

EVENING AT JUDGE BUEL'S.—*Rhubarb Pies.*—Adjoining the barn, Mr. BUEL has three barrels without heads, placed over three rhubarb plants. The tops of the barrels are covered with boards, and over the whole, and on all sides, stable manure is placed.—About the 25th of March these three plants will fill the barrel with well blanched leaves, which will continue to grow and furnish sufficient for 50 to 100 pies. These pies, when eaten cold, are very much like, in flavor, to those made of gooseberries. Every farmer could without trouble or expense provide himself with them. Tavern keepers should not neglect to obtain the rhubarb.

Willows absorb Moisture.—An instance was related, where fruit trees were in bad condition from the sub-soil retaining too much wet. The planting of willow trees near them was followed by a restoration to health. It is supposed the roots might have absorbed the super-abundance of moisture.

To Preserve Eggs.—I was shown the contents of an egg which was laid last May. The yolk and the white were in an apparently fresh and bright condition as they were nine months ago. While in a fresh state they are put in lime water. Lime that has been used for white-washing is very suitable, it is not so caustic as recently slaked lime, and consequently does not corrode the shell. The whole contents of the white-wash pail, with the addition of a sufficient quantity of water, should be put into a wooden tub or firkin containing the eggs. The business of preserving eggs would well compensate the trouble and expense. In the months of April and May they can be bought for 12½ cents a dozen, and in the winter sold from 18½ to 37½ per dozen.

To protect plants.—The method which Mr. Buel adopts, to protect his young plants that are liable to be injured by insects, is to nail four pieces of thin boards or shingles, in the form of a square or oblong, and of convenient breadth; these are covered with cheap millinet. Thus made, it is put over the plant, and by being pressed into the soil, serves not only to keep off winged insects from the leaves, but also those worms or grubs that crawl on the surface. If one side of the frame is lower, or pressed down into the soil deeper, than the other, and placed towards the soil, more sun is admitted. The millinet is taken off of the frames, washed, and put away for another season.

Salt.—The salt manufactured at Syracuse and Onondaga, put up in baskets or in sugar-loaf form, is a most beautiful and snow-white article. Its purity makes it a valuable article for butter.

RELATIVE STRENGTH OF TIMBER.—A late number of Silliman's Journal contains the result of some experiments made at Fort Adams, R. I. by Lieutenant P. S. Brown, to ascertain the relative strength of white pine, spruce and northern, or long-leaved pine. It appears from these experiments, that, with a given diameter, white pine is about 7-8ths as strong as spruce, and 3-5ths as strong as Southern pine. Spruce is about 2-3ds as strong as Southern pine.

"A GENTLEMAN" 100 YEARS AGO.—He gets up leisurely, breakfasts comfortably, reads the paper regularly; dresses fashionably, lounges fastidiously, eats a tart gravely, tattles insipidly, dines considerably, drinks superfluously, kills time indifferently, sups elegantly, goes to bed stupidly, lives uselessly.

HARROWING MEADOWS.—Harrowing, in place of ploughing sword-bowd meadows, has been found to produce a much larger crop of hay, than usual when the former method was pursued.

FOREIGN MARKETS.

LIVERPOOL COTTON MARKET.

Saturday, March 24.—The demand for cotton during the week has again been very general, and prices of all descriptions are fully supported. The Surats by auction this day went off at 1-8d per lb. advance upon the sales making by private contract. The sales of the week including 2,000 bales of American taken on speculation, and 200 for export, amount to 16,650 bags, viz.—360 Sea Island Georgia, 104d to 134d; 70 stained ditto, 64d to 84d; 8,450 Upland ditto, 54d to 7 3-8d; 1,270 Mobile, 5 5-8d to 7d; 1,770 New Orleans, 64d to 7 1-8d; 600 Pernambuco, 84 to 94d; 890 Bahia and Macao, 64d to 74d; 780 Maranham, 74d, to 84d; 100 Carthagenia, 54d; 420 Egyptian, 8d, to 94d; 160 Surat, 4 7-8d to 54d; 80 Bengal, 4 7-8d to 5d. By public sales this day, 1,440 Surat, 44d to 5 3-8d; 70 Demerara, 8 7-8d to 10d; and 100 Manilla, at 7d to 7 1-8d per lb. Import, 17,434 bags. The sales to-day reach 2,500 bags at previous prices.

Sales on Saturday 24th and Monday 26th, 6,000 bales at full prices.

LIVERPOOL CORN EXCHANGE.

Tuesday, March 27.—Indian Corn is yet dull of sale. From 1,500 to 2,000 qrs. of Russia Wheat in bond, have been disposed of at 5s 9d to 6s per 70lbs.; and 3 to 4,000 barrels of United States sweet Flour at 22s. all for export. At this morning's market really fine qualities of Irish Wheat, which were by no means plentiful, rather exceeded the rates of this day week. The best descriptions of Scotch and Irish Barleys would have sold readily at an advance of fully 2d per 60lbs.

London, March 26.—The flour trade is dull and prices unvaried.

AGRICULTURE.

(From the New England Farmer.)

MANGEL WURTZEL AND SUGAR BEET.

Soil and preparation.—The soil for these roots should be a loam, inclining to clay, in good till, well manured, and made fine to a good depth. John Hare Powel, Esq. corresponding secretary to the Pennsylvania Agricultural Society, in giving an account of his mode of cultivating this crop, says, "My soil was not naturally strong; it has been gradually so much deepened as to enable Wood's plough, No. 2, drawn by four oxen, to plough fourteen inches deep. Fresh barn-yard manure was equally spread upon the surface, and ploughed under in the early part of April, in quantities not larger than are generally used for potato crops in this country. Early in May, the land was twice stirred with Beaton's scarifier, harrowed, rolled; after stirred, harrowed and rolled again in the opposite direction." The soil on which Messrs Tristram Little and Henry Little, of Newbury, Mass. raised their premium crop in 1824, is a clay loam. In 1823, about three fourths of the same was sowed with onions, and manured with about eight cords of compost manure to the acre. The other quarter was sowed with wheat without manure. In the fall of 1823, there were about ten cords of compost manure drawn on the lot, and put in a heap. Most of said compost was drawn from the salt marshes, when ditching the same; the other part was from the barn-yard. In the month of April, 1824, the heap was thrown over and well mixed.

Planting.—Col. Powel says, "The holes for the seeds were made by a wheel, containing pegs in its circumference, which penetrated the ground about an inch, leaving intervals of four inches; the rows were made two feet asunder; two capsules were dropped in each hole; the wheel of a common barrow was passed over them, thus compressing the earth, and leaving a slight rut for the retention of moisture."

Messrs Tristram and Henry Little observe, that, "Between the 8th and 11th of May, the land was ploughed and sowed in the following manner:—After one deep ploughing, the ground was furrowed two and a half feet apart, and the manure put into the furrows, and covered with a double mould-board plough; a roller was then passed on the top of the ridge, and the seed dibbled in with the finger over the manure, about six or eight inches apart." The quantity of seed, according to English writers, is four pounds to an acre. Mr. David Little, in obtaining a premium crop, sowed four pounds, but observed that he thought half that quantity would have been sufficient.

After-culture.—In raising Col. Powel's crop, "A small cultivator, which I have contrived for the purpose, was drawn between the rows soon after the seed appeared; a three inch triangular hoe removed the alternate plants, leaving the others at distances varying from eight to twelve inches asunder. The cultivator was twice used before the 20th of July. The heavy rains of August made another hoeing necessary, and unearthed the ground so much with moisture, that all roots increased much less in that month, than during the same time in the two last years." The Messrs Little, "in the course of the season, thinned their plants, and left them from six to twelve inches apart in the rows. They were once hoed, and ploughed three times between the rows." Mr. Powel, in raising a previous crop, had placed the rows thirty inches apart, and left the plants six inches apart in the rows. He says, "I this year desired smaller roots, which might grow so closely, as, by their leaves, to protect the soil as much as possible from the rays of the sun. My cultivator by its peculiar form, enabled me to cut off the weeds when the plant was so young, that, if I had applied the plough, their crowns must have been covered in many instances, by earth occasionally falling from its land side. The failure which attends the cultivation of most root crops in drills,

proceeds from the neglect of weeds in their early stages. Four or five days of delay, frequently make the difference of fifteen days in the labor of making clean an acre of ground. The weeds which a boy with a sharp shingle could remove at the commencement of one week, may, before the end of the next, require the application of an implement drawn by a horse.

"I ascribe my success, in great measure, to the use of Wood's extraordinary plough, which enters the soil more deeply and pulverizes it more perfectly, than any other I have ever seen, with equal force, in any country; to the use of cultivators, which complete the production of fine tilth; to the destruction of the weeds on their first appearance; leaving the smallest space upon which a horse can walk, between the rows; and, above all, to planting the seeds of a proper kind upon a surface which is kept perfectly flat."

General remarks.—Agriculturists have not agreed whether it is most expedient to plant the seeds of this root, on ridges or on a level. Col. Powel condemns planting on ridges in this country, as a practice not adapted to our soil and climate, in which vegetables are very liable to suffer by drought. He says, "among the various practices, into which we have been seduced by the plausible theories of the advocates of European husbandry; there is none which appears to me more absurd than that which has led us to drill or dibble our crops on ridges. The English farmer wisely contends with the evils produced by too much rain; the American husbandman should as anxiously guard against his most formidable enemy, drought. I am inclined to think that there is no crop cultivated in this State, Pennsylvania, which ought not to be put on a flat surface."

The climate of New England, especially its northern part, is not so warm and dry as that of Pennsylvania, and in that part of the United States, perhaps the nature of the soil should decide the question, if dry, level planting, or if moist, ridge planting should be adopted.

We have heard complaints from American farmers, that the seed of this root is slow and uncertain in coming up. Perhaps the seed or soil, or both, may sometimes be too dry at the time of sowing. A writer in the English Farmer's Journal says, "I have of late years steeped my seed for at least forty-eight hours. I made an experiment with twenty sound seeds not steeped, twenty steeped twenty-four hours, and the same number steeped forty-eight hours; every seed of the latter produced plants, which came up two or three days sooner than either of the others, and some of those not steeped did not come up at all." Mr. Cobbet, in treating of the culture of common garden beets, (American Gardener, par. 198,) directs to soak the seed four days and nights in rain water before it is sowed; and observes, that the mangel wurtzel should be cultivated in the same manner as the other kinds of beets. American writers, so far as we have observed, give no directions for soaking the seeds of this vegetable before planting; and it is possible that the omission of this part of the process, may cause the slowness and uncertainty of vegetation, complained of. The capsule or husk, which contains the seeds, is dry, and it requires a long time for the moisture which it may derive from the earth, to penetrate this integument, so as to cause the seed to sprout. But if the soil be very moist at the time of sowing, soaking the seed had better be omitted.

Use.—The following remarks are from a paper communicated to the trustees of the Massachusetts Agricultural Society, by J. Lowell, Esq. late president of said society. They are derived, principally, from a French publication, by the Abbe Rosier:—

"This root is very little affected by changes of weather. It is attacked by no insect; drought affects but little its vegetation. It prepares the land extremely well for other crops. It may be sown and treated precisely like the common beet, except that it ought to stand eighteen inches asunder.

"In good land, they often weigh nine or ten pounds,

and are stripped eight or nine times. In a light, sandy, but well manured soil, they sometimes weigh fourteen and even sixteen pounds each!

"The first crop of leaves in France is taken off in the latter end of June, or the beginning of July. In this country, probably the latter period would be preferable. The lower leaves, those which incline towards the ground, are those which are taken away, and care must be taken to preserve the top leaves or the crown of the plants. The leaves may be taken off every 15 days after the first gathering. Oxen, cows and sheep, devour them greedily, and fatten readily upon them. All domestic poultry eat them readily, when chopped fine and mixed with grain.—Horses will eat them very well, mixed with chopped straw. Hogs also fatten upon them.

"Cows fed upon this root, solely, give a greater quantity of milk and cream and of better quality, for the first fifteen days, after which they grow too fat and the milk lessens. The food of cows must therefore be varied. Oxen and sheep fatten very well upon them. Cows should have grass in proportion of one third to the beet leaves, or every third day they should be turned to grass. In this mode their milk will be excellent. The trouble of gathering the leaves is less than that of gathering any other green fodder. It may be done by children, while men are required to cut other green food for cattle. It is the surest crop, since the plant will stand the largest droughts. The roots are gathered and treated like those of the common beet. The skin is very tender, and care should be taken to handle them so as they may not be wounded, as they will, in that case, not keep so well. In order to preserve the seed in purity, care should be taken to change the ground in which the seed beets are planted. The seed can be preserved, after it is gathered, three or four years, without injury. In giving these roots to cattle for food, they are first washed and then cut up into pieces about the size of a nut. It is always best to accompany them, when given to horned cattle, with clover, or other hay or straw, and if the hay or straw has been previously cut fine, it will be preferable. If horses are fed with this root, with a proportion of hay or cut straw, (half of each,) they will be fat, vigorous and healthy. If they are worked severely, a little oats or corn may be added. It is thus they are treated in Germany, where this root stands in the stead of meadows or grass lands, and whose excellent horses are well known.

"Hogs, fed upon them raw, after they have been cut up fine and mixed with milk or other drink, fatten as well upon them as upon boiled potatoes, by which, the fuel and trouble of boiling is saved.

"As to the quantity given to animals, much will depend on the proportion of other fodder which you allow them. Cows fed twice a day in winter, upon eighteen pounds of these roots at each time, together with four pounds of hay or chopped straw, will give as much and as good milk as in summer, and they will be kept in the best possible state.

"Oxen fed with forty weight of these roots per day, with ten pounds of hay, for one month, and after that with fifty weight per day of the roots alone, will be fat enough for sale in two months more.

"Any person disposed may, from the facts above stated, calculate how many cattle will be supported by a single acre of land on which this plant is cultivated.

"Men can eat this vegetable throughout the year; it is agreeable and healthy. No insect attacks it, and it suffers but little from the variety of the seasons. The leaves of this plant form, alone, an excellent food for every species of domestic quadruped, during four months in the year. Turnips and other vegetables are besides, liable to be destroyed by insects, whereas this beet is not. The roots can be preserved eight months in a sound state, while turnips are of little value after March. In some soils turnips will not grow, particularly in those which are very stiff or strong. The root of scarcity grows every where.—The milk of cows fed on turnips, has a bad taste. That

of those fed on this plant is excellent, as is also the butter made from it. This forage on green fodder comes also at the hot seasons, when almost all other green food is scarce, and sometimes not to be procured. Cattle never get tired of it. In many parts of Germany, where it is raised with success, they prefer it to every thing else, to fatten those large herds of cattle which they annually export to France. In feeding cattle with beets, the same dry food must be given which is usually given with turnips."

Col. Powel observes, "My neat cattle prefer mangel wurtzel to any other root which I have offered to them. I have found its effects in producing large secretions of good milk, very great. I selected, in November, two heifers of the same breed and very nearly of the same age, and in similar condition; they were fed in adjoining stalls, and have been fed regularly, three times a day, by the same man. One of them has had three pecks of mangel wurtzel, and four quarts of corn meal, daily; the other, four and a half pecks of mangel wurtzel. The last, which has had mangel wurtzel alone, is in the condition of good beef; the other is not more than what graziers call half fat."

"The application of mangel wurtzel as food for sheep, is not the least important of its uses. Ewes yearn usually at the season when grass cannot be supplied. The health of themselves and the thrift of their lambs, essentially depend upon succulent food being had. I am inclined to think, that no small portion of the success which English breeders have met, is to be ascribed to the large stores of roots, which they always have at command. It cannot be denied, that Indian meal will, of itself, in most cases, produce extraordinary fatness as well as great size; but I have been led to believe, that diseases are generally engendered by this species of forcing, which is always expensive, and too often, eventually destroys the animal which has been thus reared."

A writer in the Farmer's Journal says, "This root is now generally allowed to stand eminent for the excellence of its fattening qualities. Among our field productions, parsnips and carrots may justly be declared the most nutritious; Swedish turnips, as holding divided empire with it; while white turnips and cabbages sink into insignificance before it. The taste, both of the leaf and root, is most grateful to every description of stock—bullocks, sheep and hogs, instinctively lay hold of them, and, when once accustomed to their flavor, they reject every other sort of green food, if they have the election."

"No edible root has yet been brought into use, which has an affinity to the one under consideration, with respect to its imperishable properties. The white turnip is in March entirely divested of its fattening power; the Swede in May becomes shrivelled, and is almost refused by cattle; the potato, after this time, entirely sprouts away all its vigor, diminishes in bulk, and dries up; but not so the mangel wurtzel. It is not only ready for use in the autumn, the winter and spring, but may, if required, be continued with unabated advantage, and in the following autumn it may be found in full possession of its most valuable properties, undiminished in weight and abounding in saccharine juices." It has however, been thought by cultivators in this country, that the ruta baga is more easily preserved, and will remain useful to a later period in the spring and summer after its growth, than the mangel wurtzel.

Messrs T. and H. Little observe, as to the value of the roots for feeding stock, "there is a variety of opinions; but, from a number of years' experience, we think them a valuable addition, and highly worth cultivating. Comparing them with English hay,—and we know of no better standard—in our opinion, three tons of mangel wurtzel, or potatoes,—of the two, we value the mangel wurtzel the highest,—are equal to one ton of hay, for feeding stock generally; but for milch cows, we think two tons of equal value; for feeding store swine, mangel wurtzel is the only root that we know of, which we can cultivate and feed to pro-

fit. Six bushels of raw mangel wurtzel we think equal to one bushel of Indian corn."

Quantity to an acre.—The premium crop of the Messrs. Little was 33 tons, 10 cwt. and 14 lbs. on an acre. Col. Powel, inclosed certificates to the president of the Penn. Agr. Society, showing that sixteen hundred and thirty-four bushels of mangel wurtzel weighing seventy-eight thousand four hundred and fourteen pounds, were produced upon one acre and fourteen contiguous rows, produced at the rate of two thousand and sixty-five bushels per acre, weighing 44 tons, 5 cwt. and 27 lbs. In Great Britain, it is said that upwards of sixty tons have been raised on an acre.

Gathering and preserving.—In gathering the roots, care should be taken to cut off the leaves about half an inch above the crown, as they will not keep so well, if cut more closely. Messrs Tristram and Henry Little say, "As to the best mode of preserving them, we have tried divers ways—by pitting them, by putting them into a barn and covering them with hay, and by putting them into the cellar; the last mode we think the best." Col. Powel observes, that one of his crops was "piled in a cellar, in rows, as wood, and covered with sand." A writer in the English Farmer's Journal observes, that he practised with success, the following mode of preserving this root: "I packed it in long heaps, about seven feet wide at the bottom. I begin by forming the outside with the roots, not stripped of their tops; tops outwards; the internal part to be filled with roots without leaves; continue one layer over another, until the heap is about six feet high, and about two feet broad at top, which may be covered with straw and earth; the ends of the heap should be covered in the same way; the leaves form an efficient covering against rain and frost."

Mr. Hall, the editor of the Jerseyman, a Jackson paper, is about to vacate his editorial chair in favor of a Mr. Robbins from Massachusetts, and devote his time and talents to a cultivation of the earth. May the "teeming mother" of us all be propitious to her returning child, who leaves the creation of paragraphs for the growing of parsnips, and drops his pen to take up the pitchfork. May he find potatoes more profitable than politics, and peaches, rather than peltings, the fruit of his application.

We applaud the resolution of our brother; the new profession, if it is as little productive of wealth (which is scarcely possible) as that which he has left, will, nevertheless, minister directly to health, the mother of happiness. The rounded visage, the firm muscle, the steady gait, and smile of content, all owe themselves to rural labors; while dimness of vision, trembling nerves, bowed frame, uneven tread and an early grave, come from the editorial desk. Men may talk of exercise as they will; the best functions of the human frame fail before these labors. Point to the man who sits among newspapers, inditing paragraphs and pasting selections, and you may designate one to whom belongs, either in profession or short perspective, decayed physical powers, the sunken eye and sallow sickly visage. Early habits may for a short time prevent these things, but "to this complexion must he come at last."—U. S. Gaz.

(From the Long-Island Star.)

ON PLASTER OF PARIS AS MANURE.

New-York, March 23, 1832.

WARREN DE LANCEY ESQ.

Dear Sir,—From the mention you made to me of the use of Plaster of Paris, as a manure, on different and in particular soils, states of the weather, I have now recommended to several agriculturists to make experiments with it, this spring, in reference to the views you expressed.

As your suggestions were made from the results of

your farming, both in the north of the Highlands, where plaster is of unquestioned value, and afterwards in West Chester county, and on Long-Island, where sea air is supposed to render its application comparatively useless, you will oblige me by stating, with such minuteness as is convenient, the kinds of soils to which you have applied it; the grains and grass, or other crops or growths to which it is best adapted; what the proper time is, for putting it on the ground; what the difference is in its effects on lands on the sea board and in the interior; and what should be the state of the weather, as to humidity or dryness of the atmosphere, and particularly as to the direction of the winds, when the plaster should be sown.

I avail myself of your permission, to trouble you for this further information, and request you to be assured of my regards and respectful consideration.

ISAAC M. ELY.

ISAAC M. ELY, Esq. New York, 26th March, 1832.

Dear Sir,—I used Plaster twenty-five years in Dutchess county, and always found it beneficial on loam, gravel, sand, or a mixture of all, or any one with the other. On stiff clay it had little or no effect. I have used it in any month during the spring, summer, or fall, with good success; but prefer the spring. It has most effect on Indian corn, next barley or oats. I never observed any advantage on wheat or rye. It has good effect on flax, about a bushel to the acre. I put a small quantity on Indian corn as soon as the corn came up, and again in July, not more than a tea spoonful to a hill each time. Two bushels is enough to the acre of grass, barley, or oats.—Three is also a good manure for potatoes, put on as on corn.

In 1827, I used it with good success on my farm in West Chester, twelve miles from this city, having Harlem Creek, which is salt within two miles; the north and east rivers about three. An intelligent farmer, my next neighbor, has lately informed me that the farm had not borne so much grass for a number of years as since I used the plaster, and he has used it since with good success. I sowed it there in the month of April, with a dry north west wind, which of course was from the land. Mr. Robert Watts, who formerly owned the farm at West Chester, sowed part of a field with plaster on clover, and part of the field he left without it. The part without was not worth cutting; the other was a good crop. Had I remained on that farm I would have used plaster every year.

With respect to Long-Island, I never used plaster there but one season, that was on grass land, and I am satisfied it had a good effect, though it was not a fair experiment, as the plaster I used had been ground more than a year, and kept in a cellar. Was I again on a farm, I should prefer getting plaster in the stone, and have it broken and ground as fine as possible, immediately before it was used; I mean on the Island, or near the salt air. I heard it observed that the use of plaster was good for the father but bad for the son. I am not a subscriber to that doctrine, for I have known it used on land worth nothing without the use of plaster, which has become excellent for wheat after sowing clover-seed and plaster a few years. Mr. Gouverneur Morris used plaster on his farm, at Morrisania, not more than a mile from the Sound, which had an excellent effect. Upon the whole, the experiment can be made with so little expense and trouble, that I would recommend it by all means.

I generally avoided applying it where there was a present prospect of rain. A few days of dry weather should follow. In a time of drought, I have, on that account, repeated the use of it to the third time on Indian corn, and found its effects highly beneficial; the blades showing collections of dew every morning, and growing well; while at the same time, from the rows where plaster was omitted no dew was collected, and the blades wilted and decayed.

With respect and regard, I remain yours,
WARREN DE LANCEY.

(From the Tallahassee Advertiser.)
ON LOOSENING AND PULVERIZING THE SOIL.

The great importance of deeply loosening and pulverizing the soil, may be seen from a consideration of the distance to which the roots of many vegetables extend themselves when the soil is open to receive them. The earth, from its own gravity, settles down into a hard, compact and impenetrable body. While in this state, the roots of plants, which are the collectors of the food, cannot find a free passage, nor overcome the continual resistance.

The activity of the vegetable life may push them a little from the main stem; but they can neither ramble at large nor draw the same copious supply of nutriment. When we trace roots to the boundary of their range, we are struck both at the distance to which they travel, and at the obstacles which they surmount. Mr. Peters, President of Brockley and Marion Society, states that a grain of wheat, if planted in a mellow soil, will strike its roots three feet downwards, and elongate much farther horizontally.

The roots of oats have often been discovered at eighteen inches from the stem; and those of the turnip, which, with the exception of the bulb and tap root issuing from it, are all slender, flexible threads have diverged on all sides to the distance of twenty inches. The doctrine may be illustrated in the garden as well as the field, and in most cases in the former, with greater effect; because there the cultivation is superior, and is carried to a greater depth.

The fibres proceeding from an onion are of a whitish spongy substance, and are distinctly discernible in a black mold; and these have been found to descend fully two feet in a trenched soil. The carrot will often measure from twelve to fourteen inches, and the fibres which feed it must have sunk much deeper.—The potato will push out leaders to the distance of fifteen and eighteen inches in a sandy open loam, well stirred with a hoe.

The facts lead irresistibly to the conclusion, that the skilful cultivator should prepare the soil for the utmost extension of the roots, and employ such instruments as will pierce it deeply and crumble it to powder, for the free and unrestrained passage of the radical fibres. If the ground be ploughed only three inches deep, the roots can descend no farther than the share and coulter have gone before them; and if a tangled sod of grass be merely turned over without being broken and pulverized, they will find vast difficulty in stretching themselves through this matted net-work.

The same observations will apply if the surface be encumbered with unshodden and unbroken clods. The roots will be unable to penetrate their hard coats, and however full of vegetable nourishment, it must be lost because inaccessible to those dispersed feeders of the crop. The fitness, therefore, of every instrument to break and loosen the soil, becomes a criterion in judging of its merit; and its perfection is exactly proportioned to the superiority of its structure for accomplishing this essential end.

(From the New York Farmer.)

LUCERNE.—MEDICAGO SATIVA.

The high reputation which this plant has sustained from early times to our day, as the most excellent plant for fodder, on the one side, contradictory experiments made with much care and accuracy on the other side, have drawn the attention of the most distinguished agriculturists in Germany to this plant; and consequently much experimental knowledge has been spread in that country on the subject.

The cultivation of the Lucerne depends upon the lower stratum of the soil as much as upon the crumb; the latter can be made better and richer by manure; this not being practicable with the former, it becomes more important every year to have a deep soil on account of the long and short roots which penetrate it in search of nourishment. It is therefore absolutely

necessary to the prosperity and duration of the Lucerne that the soil be at least two or three feet deep and homogeneous with the crumb. Where the situation of the soil in its consistence and in its constituent parts varies, the root stagnates, the plant soon dies or supports itself but feebly. Least of all is clay where water stagnates adapted for it; and as there are many farms of this description, therefore so many unsuccessful experiments. Nor ought the Lucerne ground to be exposed at any time to too much wetness or floods. It is obvious that springy places which have their origin in changeable strata as *retaining and not retaining wet* are in this respect already unfit, and if such places were drained, still they would not be suitable for the Lucerne. Wetness gathering on the surface is deleterious to its growth in itself, and encourages the growth of other grasses which form a sward, and if you cannot overcome this difficulty, finally destroys the Lucerne.

The soil best adapted for Lucerne is that which contains to a certain depth from 30 to 50 p. c. of sand; when manured with lime or decomposed slate it is still better, provided it is equally mixed with other soils: on limestone where sparsethree thrives well, Lucerne does not grow. Such soil is commonly called a warm soil and which all observers describe as the best for Lucerne. A southern exposure sheltered from the cold north and west winds is very favorable.

Lucerne is in a warm climate, (Spain,) at home, endures, before all other grasses, drought, and therefore, yields, upon a suitable soil, in a dry summer, when other grasses fail, abundant crops. It follows as a matter of course, he that wants to cultivate a field with lucerne, ought to examine the land not only the crumb, but to a considerable depth. Such examination is less trouble and less expensive than to cultivate it at random. Many fields have a diversity of soils and its culture is very uncertain on such places. One has seldom even and thickly closed lucerne fields and gaps arise.

The ground ought to be well prepared and ploughed as deeply as possible, freed of all weeds, quitch-grass, and roots of other grasses ought to be destroyed, which can best be done by planting two years in succession, such crops as require hoeing, such as potatoes, &c. It is deemed advisable to manure the ground previously.

Lucerne is either sown separate or with barley, oats, &c., at the rate of from 15 to 20 lbs. to the acre. Formerly it was deemed advisable to prefer the former method in order to weed it; now the latter is generally preferred, because it is almost impossible to weed large fields, and because the shelter which the grain affords is very beneficial to the young plant. Many sow it with peas and vetches, which they mow green, and others yet with flax and buckwheat, with success. In pulling the flax, however, it ought to be done with much care, so as not to pull up the young plants. Buckwheat can either come to maturity or can be mown when green and in full blow, but as it mostly grows too stout the latter method is preferable.

Covering the Lucerne in the fall of the year with long stable manure is not advisable, as almost invariably some seed of weeds is carried with it, and also induces mice to make winter quarters.

One of the most important and indispensable operations to the preservation of the Lucerne is the dragging of it, especially in the Spring, but which may be repeated between the crops, viz. shortly after it is mown—if other grasses seem to take root. The first Spring it ought to be done but moderately, but in the succeeding thoroughly, so that the ground looks as if it had been tilled. It is therefore necessary to drag it with a sharp harrow in all directions. This operation does not hurt the Lucerne in the least, on the contrary it thrives the better, the deeper and the more effectually the surface is torn to pieces.

After such procedure a top dressing is the more effectual. A coat of manure ought to be applied once

in two years alternately with dung and gypsum, (plaster). Leached ashes, slacked lime mixed with manure are excellent. But of all the animal manures, that of poultry has the greatest effect. Setoraceous liquids, and dung water are frequently applied.

In order to insure a rapid and vigorous after growth, Lucerne ought to be mowed before it blows out. Well cultivated, it will give three, four, sometimes five crops in a season. So long as the dragging and manuring is not neglected and remains without gaps, the quantity seems not to diminish. Its yield exceeds that of all other grasses. Four or five tons to an acre is a general crop, and it frequently yields as much as eight to nine tons to the acre. The quantity however depends much upon the manure applied, and the weather of the season. It is either fed green or made into hay. Horses cattle and sheep are fond of it. It is better for soiling than any other kind of grass.

Lucerne is of long duration: it grows sometimes thirteen years without any diminution. About eight years is commonly reckoned. Some break it up after four or five years, not on account of its being diminished in productiveness, but because they believe by a more rapid change to turn the ground to better advantage.

To break up a field of Lucerne is not without difficulty, but it is readily performed. The fertility of such a piece of ground is very great, particularly if it has received several manurings during its growth. It will now bear several crops of grain without manure. Well grown and through yearly cultivation renewed Lucerne fields, put a farm in a high state of fertility and consequently is of great importance to the owner. No meadow will yield as much fodder on a given piece of land.

The above remarks I have made with a view to induce my brother farmers in this country to cultivate the Lucerne. Having cultivated it somewhat on a large scale in Germany I can speak with some confidence on the subject, and I only regret that I cannot convey my ideas more intelligently and in better language.

A NATIVE OF SAXONY.

(From the New York Farmer.)

PLASTER ON VEGETABLES.

Middletown, April 4, 1882.

How does Plaster Paris act on vegetables? This question has agitated the public mind for forty years past, and has never been settled to my satisfaction yet. Mr. Chaptal contends, that vegetables receive little or nothing from the earth, save water. And to corroborate this opinion, he relates, that Van Helmont planted a willow, weighing 50 lbs., in a certain quantity of earth, which was weighed accurately and put in a box, and the box covered with sheet lead, so as to keep out every particle of water. The willow was watered for three years with distilled water, and when taken out and weighed, at the end of this time, was found to be 160 lb. 3 oz., and the earth in the box was found to have lost only 3 oz. of its original weight.

It is a well known fact, that Cicuta hellebore, deadly nightshade, or any other poisonous plant, may be cultivated in the same row, and contiguous to the most harmless of esculent vegetables; yet we may analyze the earth in which they grow as accurately as we please, without being able to find in this earth any principle congenial to those plants in the remotest degree.

From all this it would seem, that vegetables derive their principal food and nourishment from the atmosphere, and derive from the earth by their roots little save water. I have thought it possible, that Plaster of Paris might act as an attractor of the carbonic acid gas or food of plants, and by drawing this food into the neighbourhood of plants, enable the capillary vessels to absorb and assimilate it to the peculiar nature of the plant.

But here a great difficulty occurs. While Plaster of Paris has the most surprising effect in the interior of our country, yet it has little or no effect near the seaboard. I am much puzzled to account for this difference, and if any of your correspondents can explain it satisfactorily, they will confer a benefit on me, and possibly on the public. Some have contended that Plaster was an absorbent, but with this doctrine I cannot agree; for if it was an absorbent, then the Plaster would take up all the moisture and food attracted into the neighbourhood of the plant, and thus increase the drought and starvation of plants, instead of promoting their growth, increase and vegetation.

R. M. W.

HORTICULTURE.

THE GARDEN.

THIRD PRIZE ESSAY, HORTICULTURAL DIVISION.

BY CALVIN.

Although no art or occupation can be traced to a more exalted origin than that of horticulture, yet if we were to commence an exposition of this science by taking a view of the source from which this delightful employment first emanated, we should soon be lost in an inexplicable labyrinth of wonder, admiration and astonishment. It may not however be amiss, by way of introduction, to make a few observations on this primitive employment, in order not only to pave the way for what may be said in this age of refinement, but also to confirm and establish the most prominent feature in this paper, (viz.) that horticulture and innocence are closely allied. As no history furnishes any correct account of this beautiful spot devoted to horticulture, and prepared by the hand of the supreme Architect, we are left to vague conjecture while contemplating the beauties of this delectable paradise. Still by taking the train of the most certain information we are in possession of, we are naturally led to some self-evident conclusions calculated to shed light on this important subject. In order to form just conceptions of the place of residence we must first take a view of the occupants. But few of mankind I think are left to dissent from the common received opinion that the first pair were created in perfect innocence, formed in the express image and likeness of their creator.

The most rational conception which strikes my mind for the local situation of those who were under the ruling influence of virtue, would naturally be where all the natural and spiritual sensations could be regaled to their full extent. Now let the present state of refinement say, what more appropriate residence could be allotted than a garden, beautified and decorated in all its various compartments by the hand of infinite skill and wisdom. I am well aware that some who profess to have great light and knowledge, have no other conception of this beautiful spot than to suppose it a place of deposit for some choice fruit trees, with one in the centre of a most delicious kind which so tempted the inmates that they eat of the fruit and thereby forfeited their right to the premises.

But these things I leave to theologians to settle, whether the sin of Adam consisted in eating, thinking, or doing some abominable act; my only intention is to delineate the garden according to the principles of innocence and the first formation of man, and draw some inferences which may not be altogether founded on vain hypothesis. Yet I shall take the liberty to drop a few ideas on this part of the subject. As soon as the man became corrupted, he was immediately ejected from his blissful abode, with this malediction, that he should henceforth be under the necessity of labouring hard to earn his bread, and that the earth should produce briars and thorns; and perhaps if the whole had been enumerated we should have had a lengthy catalogue of noxious weeds. From this view of the case I draw this fair inference, that in the

garden there was but little necessity for labour, and that the earth produced none of those worse than useless plants which, thereafter to keep in subjection would cause the sweat to flow from his brow. But I return to the more pleasing employment of describing the garden. Taking it for granted that all the senses and propensities of this happy pair were under the controlling influence of virtue and chastity, certainly the enjoyment of those faculties must be well pleasing in the sight of him who formed this noble being, and of course every thing, calculated to call into action the energies of this wonderful piece of mechanism, must have been created so as to fill the whole sense with perfect delight. Here we are irresistibly led to conclude, that nothing which the imagination can picture of the beauties of nature were lacking in this delectable spot, so completely calculated for the residence of innocence and virtue. This was a spot where taste and elegance were blended with unrivaled perfection, imagination is called on in vain to portray a scene to equal this in loveliness. Here the admirer of nature is not fatigued with sameness, the grandeur of this majestic scene must touch every heart allied to heaven. The eye at a single glance takes in innumerable beauties and feasts and luxuriates amid the rich profusion, while the ear is ravished by the melodious accents of the feathered choir. To render the scene more picturesque and heavenly, while contemplating this lower paradise, we are naturally, and as it were voluntarily led to the conclusion that emotions of gratitude must inevitably flow to that being who commanded light and all its attendant beauties into existence. Words would poorly express the sublime and elevated sensations which would swell the bosom of a lover of horticulture, while his eyes were thus feasted with the beauties of nature.

The scripture account of the garden is short but very comprehensive and explicit. "And the Lord God caused to grow every tree that was pleasant to the sight and good for food." Now if every tree, shrub, or plant, was created which could afford pleasure in beholding, and every thing which could please the taste, then I ask what could be lacking? shall we draw the conclusion that a few choice articles were caused to grow on this selected spot, and that multitudes perhaps of a far superior structure were scattered over the unbounded plains of creation, or shall we not much rather conclude that from this unrivaled profusion of beauty the whole earth was seeded by means of the deluge. From contemplating this paradisaical scene of beauty, the residence of innocence and virtue, we are irresistibly led to the conclusion that horticulture and innocence are hand maidens, and of course wherever the one makes a permanent stand the other is stationed as the faithful contemporary.

If the scriptures are true, there is to be a restoration of all things; if this takes place we shall see horticulture brought to its primitive standard, and man again established in innocence, and as certain as one takes place just so sure the other will come to pass. And here I shall venture to predict, that there is nothing taking place among the men of this generation or among the kingdoms of this world, which affords such conclusive evidence of the near approach of the millennium or final amelioration of the human family, as that spirit of zealous enterprise which is afloat in the earth in relation to horticulture. How far the various agricultural and horticultural societies have had their benign influence, in ameliorating the condition of man, is evident to every well informed discerning mind. It would render this paper too prolix to enter into a minute detail of all the beneficial results which have flowed, as a natural consequence, from these associations. Yet we shall venture to bestow a passing remark on some of the most prominent institutions, in order to illustrate the idea which we have ventured with some degree of confidence to assert, that horticulture is calculated in its very nature to better the conditions of mankind. No society perhaps in

the world has done more towards raising horticulture to its present elevated situation than the Horticultural society of London, which has been about twenty-five years in existence, and contains upwards of five-thousand members, including all classes of the community from the king down to the day labourer, and already fifty similar institutions have arisen in the island of Great Britain. Its associates are dispersed throughout the globe, and are constantly transmitting seeds, cions, plants, and a fund of useful information to the parent society in London. A considerable portion of the most eminent horticulturists in America are honorary members of this society, among whom the late Gov. Clinton was an active corresponding member. The society of Paris, instituted in 1826, now contains near two thousand members and is rapidly increasing both in numbers and improvement. At a meeting of this society, M. Boursalt, in an eloquent speech, used various appropriate arguments to prove the beneficial results of gardening, on society generally, and the duty of every enlightened individual to promote a taste for it, as a source of social improvement and general amelioration. We might go on to name the numerous or rather almost innumerable transatlantic societies, we might say that associations of this kind are in successful operation in London, Edinburgh, Paris, Berlin, Vienna, and in almost every capital in Europe, that sovereigns, princes and nobles are proud to have their names enrolled among the members of those institutions, in order to establish the fact that horticulture is at present receiving the patronage and support of the most enlightened portion of the community in the eastern hemisphere, and to prove that the salutary influence, which must naturally be produced by the harmonious labour of those numerous societies founded for the advancement of horticulture, cannot fail, in the very nature of things, to ameliorate the condition of man. But, fearful that we shall encroach on the patience of the reader by multiplying arguments to prove a fact which must be self-evident to every enlightened person, we shall tarry no longer in a foreign region, but return to our own beloved country and see what is doing in America. It may not be necessary to enumerate the various societies which have arisen in the United States since the first impulse was given by our parent country. And to calculate the beneficial results, that have flowed from the various associations, which have already been established would swell this paper to an enormous volume.

But as certain as America is destined to be one of the greatest nations on the earth, just so sure will the art of gardening prevail to greater perfection in the western hemisphere than any thing which the universe can boast. In this favoured land, where freedom has taken up its abode and the rights of man are secured, this rational conclusion must be evident to all that purity and innocence may reign without control. And when a proper incitement in horticulture shall become universal, then the natural consequence resulting from such a state of things is a degree of refined elevation far exceeding any thing hitherto known among men, for these two from the beginning are inseparably connected, and one will never prevail to any great extent without the other. For the truth of this assertion I appeal to the knowledge and observation of all men of information. Wherever you see a body of people or an individual whose attention is much occupied in horticulture there abides a proportional measure of innocence and virtue. If you are sceptic in this matter, a ride of a hundred miles, or perhaps half the distance, will convince you. Wherever you see a neat garden, under good culture, call, and you will find the inmates of that house hospitable, friendly, and kind. Observe the plantation destitute of a garden and without any visible marks of horticulture, you will find the weeds have taken a lease for life on the premises, briars in every direction have taken possession of the fence corners, and, on your arrival at the house, you are beset with

dogs trained under the influence of that spirit which governs the inmates, and your reception in the house is in perfect accordance with all you see and hear without. In nine cases out of ten you will find the truth of this statement, and my own experience with that of a multitude of witnesses, confirm the testimony.

Let us therefore, as free born sons of liberty, pursue the good work of improvement until refinement is perfected, when the wilderness shall blossom as the rose, the lion and the lamb lie down together, and righteousness and peace shall embrace each other in very deed, and this lower world not only bear a correspondent resemblance of the heavens, but the heavens with resplendent beauty be planted on the earth.

Some may ask why I predict with confidence the superiority of American horticulture. When you tell me why or how it is that America has first grasped the standard of liberty and union, and amid the silent wonder and astonishment of nations is rapidly rising in majestic splendor to that pre-eminent station to which she is happily destined, then I will answer your question. In the mean time, let all who feel a lively interest in the amelioration of their fellows, and desire the increase of virtue and purity, be zealously engaged to bring to pass that state of things which will prove a lasting blessing to society.

Horticulture is deservedly classed among the fine arts, for this palpable reason, that its natural tendency is to refine the manners of society, and produce those chaste and ennobling sensations which lead through nature up to nature's God. Horticulture is one of the most innocent, healthy, and pleasing employments in life, and affords instructing lessons which naturally tend to moral and social virtue. Kings, emperors and princes have often afforded their patronage and showed their predilection for flower gardens. "Consider the lilies of the field," said one who taught as never man taught, "for Solomon in all his glory was not arrayed like one of these." Nature in her gay attire is every how calculated to tranquillize the agitated passions, and fill the soul with a kind of primitive delight and innocency; it enlivens the sinking mind, exhilarates the whole man, and drives despondency away. Both horticulture and floriculture afford amusements congenial to innocence and the most noble impressions, and while the fostering hand of pleasing industry is afforded to these transcendent beauties of nature, the discerning mind will be unavoidably led to the propriety of subduing every unwholesome passion, that the beauties of a well ornamented mind may be left unmolested to expand in graceful splendor as the lovely Camellia Japonica.

CALVIN.

Although I am by no means a wise master-builder, yet I have laid the foundation of this essay in truth, and depend on your goodness to finish it in righteousness. The materials, I think, are of an elastic nature, and I have no doubt but the strength of your intellect will be sufficient, to draw it to any suitable length, without breaking the thread.

(From the New York Farmer.)

CULTIVATION OF THE HOP.

Albany, March 19, 1832.

Having noticed in your paper an article on the culture of the Hop, and being from a hop district, the county of Kent, England, induces me to offer the following article on the practice followed in that part, which should you think worth publishing, you will please to insert it.

I shall not endeavor to point out the primitive Hop, leaving that to the intelligent Botanist; but, as the different varieties are of much importance to the grower, I shall endeavor to describe them as well as my practice will admit. It is little to be doubted but the Flemish is the origin, which was formerly imported from Flanders thither. This variety at the present is

almost entirely rejected by the planter. I know not of any plant more susceptible to good treatment, and liable to degenerate from its variety by inattention than the hop. Every attention is always paid by the planter, to obtain cuttings from good varieties, which are generally marked in the hill at the time of picking.

VARIETIES.—The *will Hedge-hop* is a small hop, which is most generally found in the neighborhood of the hop garden or where one has formerly been. It is inferior quality, and from observation I have reason to suppose that this hop is nothing more than the cultivated variety run out;—which I am inclined to think would be the type of all the better varieties if neglected.

The *Flemish*, is the longest known cultivated, the hop is of a square oblong, from 1 inch to 1½ long, very thinly set in the branches, which are long and straggling; the vine is of a rough nature and the hop is altogether inferior.

The *Canterbury white Grape*, derives its name from the resemblance of its branches to a bunch of grapes. It is long known and of great importance, being of the best quality, and much sought after by the London porter-brewers. This hop is about half the size of the *Flemish*, nearly round;—or rather of an oblong pointed at the end. It is nearly coreless and contains more *condition* or yellow meal than any other variety known of in this district.

The *Ruffer*, is a hop also long known. It is larger than the *Flemish*, and nearly the same form but a little more pointed at the end. It has a singular quality of having green *floral* leaves in the hop, on account of which it is by some called the feathered hop. Its core is large, coarse, and the hop is altogether of an inferior quality.

The *Farnham* (or early white grape) has branches resembling a bunch of grapes. This hop is earliest known, and is larger than the *Canterbury white*, it is considered to be of the best variety, and being early is generally picked and cured for pockets for fine ales.

The *Green Grape*.—This hop derives its name from the greenness of its color before and after it is dried. It is of a large size, square, and somewhat pointed; very closely set in the branch, which has the resemblance of a bunch of grapes. The quality is considered as ordinary, and the core is large. This hop is chiefly cultivated in consideration of its withstanding the mildew and other diseases that hops are subjected to. To the above may be added many varieties which may be considered as synonyms;—and some that are not worth cultivating, especially the *red line*, which is a very ordinary hop from a better variety depreciated.

The quality of hops is generally known by their being of very small core, and large portion of *condition* or yellow meal, and when cured of a soft greasy appearance, and the color bright and clear. E. S.

RURAL ECONOMY.

(From the New York Farmer.)

ROT IN SHEEP.

The above complaint, which is so very destructive to sheep, seems, comparatively, but little understood by farmers generally, although it is very important for every one to know. I am not about to give a lucid essay on the subject, not being competent by education, nor understanding the English language sufficiently to convey my ideas in such language as I would wish to.

A great number of sheep are dying in this vicinity, and other parts of the country, from what I have heard. Some farmers lose at the rate of from 25 to 60 p. c. and some lose yet more.

I have received several communications from gentlemen living at a distance, requesting me to inform them, how to cure sheep that are troubled with the "Grub." "We lose a great many sheep," they say.

But when they describe the disorder, &c. of their sheep, and I compare the symptoms with the numerous cases that have come under my immediate observation, I am well satisfied, that the rot very extensively prevails among sheep, this season; and that it is the principal cause of so many sheep dying. But I will proceed to make a few remarks, prescribing the appearances of the disorder; how it is contracted; its preventives; and lastly its cure, if attended to seasonable.

In Germany, the Rot (Faule) is also called Dropsy (Wassersucht) or Chlorosis (Bleichsucht) and the shepherds often call it the "Egelkrankheit," "das Kropfen," "das Verheiten," or "Angefressen," but all mean the same. Sheep that are affected with this disorder, appear dull. The veins in the eyes, and the inside of the lips and the month, are pale. The skin has lost its natural red color. They keep for some time in flesh and have a good appetite, but grow weak and lose their vivacity. Then a slight fever appears which decreases until they die. The wool does not stand tight on the skin, but is easily pulled out. The evil grows in the winter. In many animals, appears a swelling under the jaw bones, which sometime disappears as quick as it comes. The eye-balls appear to be surrounded by a shining moisture, (humidity) which is not the case in a healthy sheep. By bearing ewes, the sickness appears to reach its highest point about yearning time, or shortly after, when the animal loses its appetite, lies often down, and finally dies. By examining sheep that have died under these circumstances, in the chest and abdomen is found a quantity of water, and the bowels are often laced with watery pustules.

The causes that create the rot in sheep, are, first, by feeding in swampy places. Secondly, by feeding on young, rank and luxuriant grass, grown in wet places. Thirdly, continual wet weather; and fourthly, by fodder badly cured, such as mouldy hay, &c.

It is of the utmost importance to endeavour to prevent this disorder; for if it once gets into a flock of sheep, it is difficult to cure it, radically, and if it is advanced to a certain degree, its cure is impossible. By feeding them every evening, or every other evening with a little dry fodder, and if only straw, it is very good, it absorbs the superfluous moisture in the system. If there is any ground for suspicion, that sheep have contracted the rot, or are affected with it, take aromatic herbs, such as juniper-berries, wormwood, red gentian, mayweed and yellow milfoil, of each two ounces; pulverize and mix it together with about 20 lbs. of barley meal, (corn meal will answer the same purpose), and feed it to them in troughs.—For the purpose of making them eat it better, sprinkle a little salt on it. This quantity is sufficient for one hundred sheep for one day; and it ought to be given to them for at least two or three weeks, every day in succession. The above, I have tried in Germany, and found it to be one of the most efficacious remedies. It has been recommended of late, to take one quart of spirits of turpentine, mixed with two quarts of pure water, and give to each sheep one table spoonful, for three mornings in succession. Tar, put in troughs, with a little salt sprinkled on it and put where sheep can have free access to it, has been recommended and found to be a preventive for the rot in wet seasons.

In concluding, I would remark, that the remedies ought to be applied when the disease, is in its first stages.

A NATIVE OF SAXONY.

FEEDING CATTLE.

When there is a white frost on the grass, keep your cattle in the yard, and give a little dry fodder. When the frost is melted off, then turn them out and they will do well. *S.

Why is port wine astringent and slightly rough? Because of the husks with which it is colored. The husk is, however, capable of communicating but a light color; when the red is deep, it is artificial, and a deep red color is never a desirable quality.

MISCELLANEOUS.

METEOROLOGY.

[We return our thanks to Mr. Griscom for the following article, and shall consider it an acquisition to receive the monthly reports which he offers.]

Clermont Academy, 4th mo. 18th, 1832.

Year and month.		Mean temperature at sunrise.	Mean temperature in afternoon.	Mean temperature of the month.	Range.	Minimum temperature of the month.	Maximum temperature of the month.	Warmest day of the month.	Cooldest day of the month.	No. of days on which rain.	No. of days on which snow fell.	Wind west of meridian. No. of days.	Wind east of meridian. No. of days.	No. of days on which Ther. was 32° or less.	Electrical phenomena Ther. below zero.
1831.	11th month (Nov.)	35.77	47.83	41.50	43.21	on 30th	64 on 11th	60.5 on 11th	26.5 on 30th	7	5	27.5	2.5	8	1
	12th month (Dec.)	18.58	27.67	23.18	15	4 on 16th	41 on 21st	33.5 on 26th	10.5 on 18th	1	9	23.5	part of 6	31	1
1832.	1st month (Jan.)	26.00	37.00	31.50	66	7 on 27th	59 on 18th	54 on 19th	3 on 27th	7	4	26.5	4.5	24	3
	2d month (Feb.)	30.49	39.46	34.97	55	10 on 24th	65 on 19th	35.5 on 12th & 19th	12.75 on 21th	14	11	16.5	12.5	15	1
	3d month (March)	35.28	51.06	43.22	57	14 on 13th	71 on 12th	65 on 12th	21 on 18th	11	2	26.3	4.5	15	1

The first column of the above, as will be easily perceived, shews the year and month in which the observations were made.

The second column shows the mean temperature for each month taken every morning at sunrise, which is almost uniformly the lowest range of the thermometer in the day.

The third column shews the mean temperature for the month, taken in the afternoon when the mercury is at its maximum height—this occurs usually in summer about 3 o'clock, P. M., and in the winter near 12, M., with some slight variations. The fourth column shews the mean heat or temperature taken

from the two last observations, and gives very nearly the mean heat of the month. Mr. Meteorologists have been much deceived in supposing they have obtained the mean temperature by taking an average of three or four observations made between sunrise and sunset. It must be obvious, that the result from these would only give the temperature of that part of the day when the sun is above the horizon, and not for the whole 24 hours. I have found from careful experiments for a number of years, that the mean, taken from two observations as above, varies but very little from that of observations taken at every hour in the 24

The fifth column gives the range, or the difference, between the lowest and highest points at which the mercury stood during the month.

The sixth and seventh columns shew the minimum and maximum points, and the days on which the extremes occurred.

The eighth and ninth columns shew the mean temperature of the coldest and warmest days of the month.

The tenth and eleventh columns explain themselves.

The twelfth shows the number of days on which the wind blew from some point west of the meridian and the 13th the number of days on which it blew from some point east of the meridian. The great excess of westerly winds during the five months in the table, is not more remarkable for the number of days than for excess of force over all others.

The fourteenth column shows the number of days in each month on which the mercury stood at sunrise at 32° or below that point; the five months give a total of 93 days—I believe it to be very unusual for so great a degree of cold to take place so soon as in the first month of last winter, the thermometer at sunrise stood *below* the freezing point, every morning, except one when it was just 32°.

The mercury was below zero at this place four times during the winter. I have carefully observed the thermometer for eight years and never until the last winter saw the mercury below zero.

MEMORANDA

In 11th mo. 18th. Severe thunder storms in the evening, the lightning remarkably vivid. Several factories were burnt or damaged by it particularly in the S. E. part of Mass.

20th. Ground frozen for the first time—The first snow in small quantity fell on the night of the 21st. Snow five times in this month—one aurora borealis.

12th mo. 4th. Thermometer 34 at 3, P. M.; in evening the wind changed from N. E. to N. W. and blew a gale with a seed of snow for about an hour, when the sky became clear and excessively cold, thermometer 16° at 9 P. M.

8th. Delaware fast, and boys skating on it—The supply of coal entirely out, and wood selling in Philadelphia at \$10 to \$14 a cord.

10th. Ice again driving in Delaware, but very full.

12th—filled the ice house—13th, Delaware fast
opposite the city—the crossing occupying 4 hours.

16th—at 5 A. M. the thermometer 4° below 0 but rose to 14° above by sunrise; the wind light from S W.

1832, 1 mo. 17th. At 8 P. M. thermometer 40
a very dense fog obscuring the full moon, and con-
densing so rapidly as to drop fast from the trees-
Delaware still fast.

18th. In evening stratus formed very low and dense as to obscure the lower parts of the trees which their tops were clearly scene—at 11 P. M. rose and became general.

19th. Ice in Delaware broke opposite the city-
fast 43 days.

20th. 9 P. M. began to rain and snow, continued all night—the shrubbery and trees covered in the morning—the landscape enchanting—for a day or two previous, wasps, common flies and a large hair

caterpillar quite lively—frogs singing—the buds of the aspen much swelled.

26th. Thermometer at 1, at 11 P. M. and 7 at sunrise on the 27th.

2d mo. 7th to 10th, heavy sleet—12th, insects very lively—skunk cabbage in flower plenty—19th, frogs singing—20th, maple buds red and willows swelled considerably.

3d mo. 3. Garter snakes out—huds of mock orange swelling—narcissus and daffodils starting up; first crow black birds—12th, aspen in full flower, and lombardy nearly so; crocus in full bloom—in evening a series of electrical clouds highly charged, range round from S. E. by the W. to N. E. much lightning and heavy thunder with copious rain, thermometer at 64° but fell in 4 an hour to 55°—14, ground hard frozen, thermometer below freezing point all day; 24th, first pewit fly catcher—27th, first kingfisher.

4th mo. 1st. Fine cirrus—vegetation very backward—no leaves on shrubbery—the buds not so much swelled as on the 1st of last month—the grass has scarcely started, while at this time in 1828 clover was more than a foot high—11th, vegetation yet at a stand—13th, pleasant, plants took a rapid start—first purple martins in Philadelphia. &c. &c.

The above is a very brief abstract from my Journal, and made in great haste. If such things will be worth publication in your journal I will be willing to send you a monthly report. I would suggest to your other correspondents the propriety of a uniform mode of registering the weather, and the importance of a classification of the clouds, &c. keep regularly a notice of the *class* as well as the *quantity of clouds in view* three times a day, and the *direction and force of the wind*, and from such observations I am confident a little practice will enable the scientific agriculturist to guard himself in time against many of the vicissitudes of the weather.

I forgot to mention in its place, our location—Clermont Academy, 3½ miles north of Philadelphia, on a 1½ S. W. of Frankford, Pa. The thermometer stand is in the open air, where it is out of reach of reflection ten feet above the surface of the ground, on the north side of the school room.

Respectfully, SAMUEL S. GRISCOM.

(From the New England Farmer.)

POTATOES PLANTED WHOLE.

MR. EDITOR:

A writer in the Gardener's Magazine for Dec. 1831, states, "I quite agree with Mr. T. A. Knight, in planting potatoes whole. As a testimony, I will state an experiment of mine: I planted four potato slips, containing two eyes in each; and four, the crowns containing, perhaps, four or five eyes each; four small whole ones; four large whole ones. The produce of the first four roots weighed eight pounds; of the second four, eleven pounds; that of the third four, sixteen pounds. I think this will make it clear to any one that the reverse of what is generally followed ought to be practised, namely, to plant crowns or whole potatoes in lieu of a plant with two eyes. This is even the second trial I have made, and found it the same; but I was not so particular in the first experiment as in the second, having determined by my eye that the difference was so obvious. This is of the greatest importance to the agriculturist. If it holds good for an acre, what a difference in the produce!—The difference of a little extra seed bears no comparison to the extra produce; and besides, the labor of cutting is saved.

Bee Hive.—Mr. B. has just finished making a bee hive in his garret, by partitioning off a room of suitable size. From the experiments which have been made, it is probable that similar rooms will become general. The bees are not subject to be injured by insects, and the necessity to limit their industry or to kill them off does not exist.

Prices Current in New York, April 21.

Beeswax, yellow 18 a 20. Cotton, New Orleans, s. 10½ a. 13; Upland, s. 11; Alabama, s. 9 a 11½. Cotton Bagging, Hemp, yd. 14½ a 17; Flax 15 a 14½; Flax, American, 7 a 8. Flaxseed, 7 bush, clean —; rough —; Flour, N. York, bbl. — a 5 43; Canal, 6 25 a 8 50; Blat. Hrdst. 5.50 a 5.56; Rhd. city mills — a 8.12; country, 5.43 a 5.58; Alexand'a, 5.43 a 5.52; Fredericksburg — a 5.31; Petersg. 5.37 a 5.50; Rye Flour, — a 4.00; Indian Meal, per bbl. 2.75 a 2.87; per hhd. 13.50 a 13.75; Grain, Wheat, North, — a —; Vir. — a —; Rye, North, 78 a —; Corn, Yel. Nor. — a 58; Barley, 35 a 90; Oats, Sth. and North, 42 a 50; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess 8.75 a 9.25; prime 5.25 a 5.75; cargo — a —; Lard, 7½ a 8½; Pork, mess, bbl. 12.50 a 13.25; Prime 10.70 a 11.84.

AGRICULTURAL BOOKS

For sale at the American Farmer Office and Seed Store.

The AMERICAN GARDENER'S CALENDAR, adapted to the climates and seasons of the United States; containing a complete account of all the work necessary to be done in the Kitchen-garden, Fruit-garden, Orchard, Vineyard, Nursery, Pleasure-ground, Flower-garden, Green-house, Hot-house, and Forcing frames, for every month in the year; with ample practical directions for performing the same. Also, general as well as minute instructions for laying out, or erecting each and every of the above departments according to modern taste and the most approved plans; the ornamental planting of pleasure-grounds, in the ancient and modern style; the cultivation of thorn-quicks and other plants suitable for live hedges, with the best methods of making them, &c. To which are annexed, catalogues of Kitchen-garden plants and herbs; aromatic pot and sweet herbs; medicinal plants; and the most important grasses, &c. used in rural economy, with the soil best adapted to their cultivation; together with a copious index to the body of the work. By Bernard McMahon. Eighth edition improved. Price, \$4.50.

A GUIDE TO THE ORCHARD AND KITCHEN GARDEN, or an account of the most valuable fruit and vegetables cultivated in Great Britain; with Calendars of the work required in the Orchard and Kitchen-garden during every month in the year. By George Lindley, C. M. H. S. Edited by John Lindley, F. R. S. &c. assistant secretary of the Horticultural Society of London. Price 5s.

AN INTRODUCTION TO THE NATURAL SYSTEM OF BOTANY, or a systematic view of the organization, natural affinities, and geographical distribution of the whole vegetable kingdom: together with the uses of the most important species in medicine, the arts, and rural or domestic economy. By John Lindley, F. R. S. L. S. G. S. Member of the Imperial Academy Natural Curiosum; of the Botanical Society of Katisbon; of the Physiographical Society of Lund; of the Horticultural Society of Berlin; Honorary member of the Lyceum of Natural History of New York, &c. &c. and Professor of Botany in the University of London. First American edition, with an Appendix, by John Torrey, M. D. Professor of Chemistry and Botany in the College of Physicians and Surgeons in the city of New York, Member of the Wernerian Society of Edinburgh, Fellow of the Mineralogical Society of Jena, Member of the Physiographical Society of Lund, Sweden, &c. &c. Price, \$2.75.

THORN QUICKS FOR HEDGING

Just received at the American Farmer Office and Seed Store, from the extensive nursery of Joshua Peirce, near Washington, D. C. 10,000 Plants of the AMERICAN HEDGING THORN. They are put up in bundles of 200. Price \$5 per thousand.

LUCERNE AND WHITE MULBERRY SEED.

Just received from Europe a supply of Fresh Lucerne Seed of prime quality, which will be sold at market price; and also a quantity of White Italian Mulberry Seed fresh and of fine quality, at 50 cents per ounce. J. S. EASTMAN.

DURHAM SHORT HORN BULL CALF.

A full blood improved Durham Short Horn Bull Calf by Gloucester, out of a first rate thorough bred Cow, four months old, well formed, of good size and points, for sale by the Editor of the American Farmer. Price, if immediately taken, \$150. Apply to I. I. Hitchcock, office of the American Farmer.

WHITE MULBERRY SEED.

Just received, direct from Europe, at the American Farmer Office and Seed Store, a supply of White Italian Mulberry Seed, warranted genuine and fresh, at 50 cents per ounce. Orders addressed to I. I. Hitchcock will be attended to without delay.

N. B. An ounce sent by mail will be charged with quadruple letter postage for the distance sent.

AGRICULTURAL IMPLEMENTS AND FRESH GARDEN SEEDS.

The subscriber offers at his store and manufactory, No. 36 Pratt street, between Hanover and Charles streets, a great variety of AGRICULTURAL IMPLEMENTS, consisting of his Patent Cylindrical STRAW CUTTERS; Gideon Davis' Patent PLOUGHS, with cast and wrought shares, and Castings for the same to supply those worn out; Substratum and Shovel Ploughs; Harrows; Robbin's Patent Corn Planter; Corn Cultivators, Corn Shellers; Wheat Fans; Wire Saws, Hay and Manure Forks, by the single or dozen; Grass and Grain Seythes; Grain Cradles; Hay Rakes, Mattocks; Picks and Grubbing Hoes; Weeding and Hilling Hoes. A variety of Garden and Horticultural TOOLS, &c. &c. Those articles manufactured by himself special pains have been taken to procure the best materials and to have the work executed in the best manner.

Also, a great variety of GARDEN SEEDS, both European and American, and all of last year's growth, embracing a great variety of Beans, Cabbages, Radishes, late Peas, Bene Seed, &c. &c. And the following FIELD SEEDS, viz: Tall Meadow Oat Grass; Lucerne, of Prime Quality; Mangle Wurtzel, Ruta Baga; Large Yellow Pumpkin, by the quart or bushel; and White Italian Mulberry SEED, of J. S. EASTMAN.

Ap. 20.

FRESH GARDEN SEEDS, AGRICULTURAL IMPLEMENTS, &c.

SINCLAIR & MOORE, Pratt street wharf, offer for sale, a complete assortment of Garden Seeds of the growth of 1831, warranted genuine of their kinds; particular care has been taken to obtain the very best, both of English and American Seeds, specimens of which may be seen growing near their store; among the English Seeds just received, may be enumerated:

Fine Early York Cabbage, fine Early George Cabbage, fine Early Wellington Cabbage, fine Early Sugar Loaf Cabbage, Ox Heart Cabbage, Early Battersea Cabbage, Green Savoy Cabbage, Drum Head Cabbage, Red Dutch Cabbage, Early Purple Cabbage Brocoli, Late Purple Cabbage Brocoli, White Brocoli, Common Scarlet Raddish, fine Early short Top Raddish, a superior article; Early Salmon Raddish, Late Salmon Raddish, Grand Admiral Lettuce, Tennisball Lettuce, Ice Lettuce, Lazy Lettuce, Corn Salad, Asparagus (Giant) Genuine Brussels Sprouts, Green Curled Borecole, Brown Curled Borecole, Sea Kale, Summer Spinnage, Mangel Wurtzel Seed, White Clover, Lucerne, Perennial Rye Grass.

IMPROVED PLOUGHS.

A large stock consisting of the different sizes, with wrought and cast shares of our New Model, not surpassed by any ploughs known to us. McCormick's Patent Ploughs, Woods' Patent cast share Ploughs, the Patent self sharpening Ploughs with steel points, this valuable principle of keeping its points always sharp without Smith expense until from twelve to sixteen inches of a steel bar is worn away, recommends it strongly to the public. Barshare Ploughs for rough lands, Hillside Ploughs, Double Mould board Ploughs, Cast Iron Carry Ploughs, &c. Harrows of different sizes and constructions. Improved Cylindrical Straw Cutters, Daton's Patent, Evans' and common Dutch Cows, Wheat Fans, Corn Shellers, Steel Hay and Manure Forks, Hoes, Mattocks, cast steel Axes, Socket and Strapped Shovels, Spades, Garden and Pruning Tools.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—A considerable change has been effected in the price of flour by the recent inspection law, which has just gone into operation, by which the grade of flour has been considerably raised. There is also not that distinction between Howard street and City Mills flour that formerly obtained, and hence the prices are the same. Wheat has improved in consequence of a scarcity in the supply.

TOBACCO.—Seconds, as in quality 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; line red, 6.00 a 8.00; wrappery, suitable for cigars, 6.00 a 10.00; yellow and red, 3.00 a 15.00; yellow, 15.00 a 19.00.—Fine yellow, 18.00 a 22.00.—Virginia, 4.00 a —.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 285 hhd. Md.; and 15 hhd. Ohio—total 300 hhd.

Wool.—best white head family \$6.75 a 7.25; super Howard-st. 5.37 a 5.50 city mills, 5.37 a 5.50 a —; Susq. 5.00 a —; CORN MEAL bbl. 3.50; GRAIN, best red wheat, 1.00 a 1.10; white do 1.15; Susq 1.10 a 1.12 —Corn, white, 46 a 47 yellow 47 a 49 Rye, 68 a 67 —Oats, 35 a 36 —Beans, 75 a 80 —Peas, 85 a 70 —Clover-seed 5.00 a 6.50 —Timothy, 2.00 a 2.50 —Onion-seed 2.00 a 2.50 —Tall Meadow Oat Grass 2.00 a 2.50 —Herd's, 75 a 87½ —Lucerne — a 37½ lb. —BARLEY, Unwashed 1.50 a 1.62 —COTTON, Y. 7½ a 10 —Lou. 9 a 12½ —Alab. 8 a 10 —Tenn. 7½ a 9 —N. Car. 3 a 3½ —Upland 8 a 11 —WHISKY, hhd. 1st. 27; in hbls. 23, a 30 a —Wool, Washed, Prime or Saxony Fleece 49 a 57; American Full Blood, 40 a 45; three quarters do. 38 a 40; half do. 34 a 36; quarter and common do. 30 a 34. Unwashed, Prime or Saxony Fleece, 30 a 34; American Full Blood, 26 a 28; three quarters do. 24 a 26; half do. 22 a 24; quarter and common, 18 a 22 —Hemp, Russia, ton, \$225 a 230; Country, dew-retted, 54 a 56 lb. water-rotted, 7 a 8c. —Feathers, 35 a 36; Plaster Paris, per ton, 4.00 a 4.25; ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.75 a 6.25 —Oak wood, 3.50 a 4.00.—Hickory, 4.50 a 5.00.

CONTENTS OF THIS NUMBER.

Editorial; Strawberries and Raspberries; The Farmer's Monitor—Anecdote of an Ox—Use of Plaster on Corn—Evening at Judge Buel's, Rhubarb Pie, To Preserve Absorb Moisture, To Preserve Eggs, To Protect Plants, Salt—Relative Strength of Timber—A Gentleman 100 years ago—Harrowing Meadows—Foreign Markets—On the Cultivation of Mangel Wurtzel and Sugar Beet, the Uses to which it is Applied—Reflections on an Editor Turning Farmer—On the Benefits of Plaster of Paris as a Manure, and the Proper Time for Putting it on the Ground—On Loosening and Pulverizing the Soil—Cultivation of Lucerne, Medicago Sativa—Use of Plaster on Vegetables—The Garden, Third Prize Essay, Horticultural Division, by Calvin—Cultivation of the Hop, Varieties of—Remedy for the Rot in Sheep—Feeding Cattle—Letter from Samuel S. Griscom on Meteorology—Potatoes Planted Whole—Bee Hive—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

EDITED BY GIDEON E. SMITH.

Published every Friday, (at the old office, basement of Barnum's City Hotel,) by I. IRVINE HITCHCOCK, on the following

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged by the year, and never less than a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be the extent of the time of receiving such order; except at the discretion of the publisher.
4. The risk of loss in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free from all expressions, except for communications intended for publication, and letters containing money.

For All Postmasters are requested to act as agents for the Farmer they are authorized to retain \$1 for each new subscriber, and 10 per cent. on all other collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, MAY 4, 1832.

CHEAT.—Dr. MUSE.—We cannot permit the "final communication" of Dr. Muse, (published in the present number,) to go to the public without a passing remark, exculpatory of our editorial course from the charge therein made against it. Dr. Muse says—"From these premises it would seem to be inferred that the respect proffered by you was to be confined to your own side." It would seem as if some men could only judge of the offensiveness of language when used by others towards them, and that they are incapable of judging of the severity of their own applied to others. The victim is undoubtedly the best judge of the sharpness of the dagger's point, but the mere fencer should at least be capable of discriminating between a two-edged sword and a lath. In applying the term "absurd" to the theory advocated by Dr. Muse, that is, that cheat is the production of wheat, we admit that we used strong language, but not more strong than the occasion called for according to our opinion. We were justified in it, however, by the language used by Dr. Muse, on whose article we were commenting, if not by the subject in debate. He had attributed the arguments of his opponents to vanity, to the pride of opinion, &c. example.—And though "the philosopher in his vanity may abhor the mysterious fact of such a metamorphosis, because it may oppose his favorite theory, or come in collision with his views of the laws of nature," &c. He had pronounced arguments used by us, "catching at straws"—"evidence of a desperate case"—"fancy too extravagant for serious consideration, &c." Now we appeal to the candour of Dr. Muse himself, whether the term "absurd" applied by us to the theory of cheat being degenerated wheat, was more disrespectful than the language above quoted, used by him in the article on which we were commenting?

We deny the charge preferred by Dr. Muse, that the respect proffered by us was to be, or has been, "confined to our own side." The first deviation from respect for the opinions of others, was contained in his communication; and we have uniformly allowed him more freedom in this respect than he was entitled to under the rule. Although we differ widely from Dr. Muse on the subject under discussion, and of course have taken part in the debate, we have not allowed our opinions to influence our course towards him, or those who believe with him, in relation to the publication of communications, or a respectful consideration of them. Indeed, we have felt it incumbent on us rather to extend than abridge the freedom of debate on their side of the question; and hence we have published on that side many articles containing mere repetitions of arguments and facts, which, had they been on the other side, we should have withheld as unnecessary.

We beg Dr. Muse to be assured, that we have not made the above remarks in the spirit of controversy, and that we would have much preferred that the occasion for them had not existed. Much less is it our object to provoke him to a revocation of his determination to make the present a final communication.

Will the Doctor excuse us for a single remark on the position adopted by him, that from long cultivation, by slips and suckers alone, the banana, sugarcane, pine apple, bread fruit, &c. do not produce seeds. This is a very great error. All these vegetables do produce seeds in the countries of which they are natives. In the West Indies new varieties of the pine apple are continually raised from seed.—These vegetables are deprived of the power of producing seed, not by long cultivation from suckers, but by removal to uncongenial climates, where the growing season is not sufficiently long for the maturity of seed. The sugar cane is always propagated by cuttings, in climates where vegetation is suspended

from necessity; and in the West Indies because it arrives at maturity sooner than from seed. But it does produce seed when the climate will admit of 15 or 20 months uninterrupted growth. Dr. Paris therefore must have had reference to plants cultivated in European hot houses; in these, it is very true, they do not produce seed; but this mode of growing them will not surely be considered *cultivation*, in the true sense of the term, and as applicable to the case in question.

(From the New York Farmer.)

ZINC WARE.

At a regular meeting of the Albany Institute, held the 25th ult. Dr. T. Romeyn Beek read a paper on the danger to health in employing articles manufactured from Zinc for culinary and domestic purposes. The author stated, that his attention had been recently called to the subject, from the fact, that articles of zinc ware are, at present, advertised, as well adapted for cooking rice and all kinds of sweetmeats; also for the dairy, being recommended as producing from 20 to 25 per cent. more cream or butter than in any other way, and for preserving butter sweet, &c.

The patentee, (if his patent be tenable,) could not have been aware, that this subject had been made a matter of investigation with European governments, and the result a most unfavorable one.

The following were among the facts stated in corroboration of this assertion:

The French government, in 1813, were desirous of substituting zinc canteens in the army, instead of tinned ones, as neater and more durable. Previous to introducing them, the minister of war referred the subject to the following eminent chemists and medical men: Chausser, Gay Lussac, Thenard and Clusel. They reported against their use most decidedly, and for the following (amongst other) reasons. Zinc is readily and powerfully corroded by vinegar. Common urine dissolves a portion of it, with a disengagement of hydrogen gas. Even water, standing a considerable time in vessels of zinc, acquired a disagreeable taste, and by its oxygen, dissolved a portion, and formed an oxide. (An abstract of this report, is contained in the New York medical reports, vol. 17, p. 188.)

During the same year, both the ministers of war and of the Interior, referred the subject of zinc vessels for culinary purposes, to the French Institute. The report was unfavorable. Cuvier says they found "that zinc was too soluble even in the weakest acids, in fat and even in water; that the salts which it forms, are too acrid, and in certain cases, act too violently on the intestines to allow the employment of the metal for such purposes without inconvenience. Say found, that even distilled water, kept in vessels of zinc, acquires a deified styptic taste, and that the juices of fruits, when boiled in similar vessels, dissolve a portion of them, and form a sufficient quantity of salt to render their taste disagreeable." (Annals of Philosophy, edited by P. Thompson, 4, 310.)

Proust, an eminent Spanish Chemist, was about the same time ordered by his government to investigate this subject. His report, which is a very elaborate one, fortified by numerous experiments, is equally unfavorable. It may be found in the 1st Series of the English Repository of Arts.

The medical faculty of Paris requested Vanquelin and Deyeux to examine this subject. They found, besides the effects of vinegar and water, already mentioned, that citron juice, on being boiled in zinc vessels, dissolved the metal and formed a salt.—Common salt in solution, furnished a liquor which, on being tested, gave a precipitate of oxide of zinc. Even butter heated in a zinc sauce-pan destroyed the polish of the vessel, and a small hole was formed in its bottom. It is therefore impossible, they remark, to employ it for kitchen utensils, without incurring the hazard of its being united either in the state of oxide or salt with domestic viands.

After reading these authorities, Dr. B. submitted to the members, whether the experiment of introducing such vessels in this country should not be discontinued. He exhibited a zinc kettle, in which about a gill of vinegar had stood for two days in the cold air. The acid had become dark coloured, and bitter to the taste, and the surface of the vessel where it had rested had oxidized. Here no heat had been applied. What then must be the result, where sweetmeats are prepared in them, all of which contain more or less acid? The same remark must undoubtedly apply, to a sufficient extent, to all other articles proposed to be kept in zinc vessels.

Curious fact in the Economy of Bees.—When two or three distinct hives are united in autumn, they are found to consume together scarcely more honey during the winter than each of them would have consumed singly, if left separate. In proof of this remarkable result, the author states a variety of experiments to which he had recourse, and all of which led uniformly to the same conclusion. And, indeed, he shows positively, by a reference to upwards of thirty hives, six of which had their population thus doubled, that the latter do not consume more provisions during winter than a single hive does; and that, so far from the bees suffering from this, the doubled hives generally send forth the earliest and best swarms.—*Arc. of Sci.*

FOREIGN MARKETS.

LIVERPOOL, MARCH 31.

Cotton.—With the exception of Monday last, when upwards of 4000 bags were sold, the market generally has been quiet this week, but prices remain without alteration. The public sale of 530 Sea Island and 40 stained was numerously attended, and went off briskly, at an advance of 1d to 2d per lb, on previous rates. 1500 American have been taken on speculation, and 570 Carthageana and 200 American for export. 4500 American, 1200 Brazil and 100 Egyptian have been forwarded into the country this month unsold.

The demand for Cloverseed has been but languid this week, and the sales have been inconsiderable of both red and white. On Monday next, about 30 tons of American red will be offered by auction. Small sales of New York flaxseed have been made at 90s per hhd.; but for 200 hlds. 87s 6d per hhd. has been accepted. A small lot of ordinary American Bees' Wax sold at 7l. 5s. per cwt. In Quercitron Bark nothing has been done. The demand for Tobacco has been chiefly for export, for which about 15 hlds. of ordinary Virginia, and 80 of Kentucky stemmed, with 50 of Kentucky Leaf, have been taken; about 40 hlds. of Virginia stemmed, and a few of Leaf, have gone for home trade, but nothing has been done for Ireland. Prices continue steady.

There has been a moderate demand for Wheat throughout the week, and fine descriptions remain without alteration in prices. Sales of Russian Wheat at 5s6d to 5s9d per 70 lbs. and of sweet American Flour at 22s per bbl. in bond, are reported to have been made for export. Sour flour in bond is dull, and rather declining. Bengal flour sells, for sizing, at 29s per 196 lbs. with an increasing consumption.

LONDON, MARCH 30.

Wool.—The market continues in the same dull state in which it has been for some time back, and few sales making. About the middle of next month, there will be several public sales of N. S. Wales, V. D. Land, Odessa, Spanish, and German Wool, and many buyers from the country are expected to attend.

Cotton.—In Cotton there is little variation; the market remains firm. The purchases this week consist of 490 bowed, mid. 54d, good 64d; 110 Surat, public sale, ord. 54d to 7d; 1750 Madras, do. good fair, 5d; good 5 3-8d; 60 West India fair 6 1-8d; 1260 Surat ord. 44d; fine 54d.

Tobacco.—The sales of Tobacco are confined to small parcels for the home trade.

Rice.—This is heavy at a small decline in price.

AGRICULTURE.

CHEAT.

MR. SMITH:

Cambridge, April 21, 1832.

Sir—I had determined, from the offence I appear to have given, to take no further part in the controversy commenced by your request; but it seems incumbent on me to make this final communication.

In No. 41, vol. 13, "American Farmer," referring to the question of wheat degenerating into a worthless weed, called "cheat," &c. you invite the advocates of both theories, as you term it, to enter upon the discussion: and you then say, and very justly too, "the honest opinions of men, however erroneous, should be treated with respect;" and further, "that testimony may be conclusive to some minds, and far from it to others, without implying culpable ignorance or stubbornness."

Upon this virtual pledge of terms, I ventured to offer my sentiments in the affirmative, although I was aware of the misfortune of their collision with yours, which you had declared, in the same paragraph, to be in the negative.

Under these circumstances, I was considerably surprised to see my communication, when it appeared in your columns, connected with a sarcastic editorial accompaniment, denouncing the affirmative opinion upon the subject "absurd," and "that because thousands of others equally 'competent,' veracious, and disinterested witnesses have been equally mistaken," therefore, this opinion "we must be permitted to say, is equally 'absurd.'"

From these premises it would seem to be inferred, that the respect proffered by you was to be confined to your own side. The force of your logic I shall refer to the public judgment; this will determine how far facts are to be rejected, because others may have been erroneous.

I regret to observe, too, in a late American Farmer, that I have, and most unintentionally, excited unpleasant emotions with others, also on the same subject.

I have read in that paper of April 6th, a communication on this subject by Mr. N. Herbermont, of South Carolina, to which he has annexed a column exclusively devoted to the condemnation of my sentiments in regard to it: expressed too with a warmth which the occasion did not require. It is not my intention to retort illiberal and uncourteous reflections; but may we not be allowed to say that he has established one of his positions: "that the vanity of ignorance may abhor that other men should have other and more philosophic views of things than they themselves entertain."

I am, at the same time, happy to have it in my power to return a courtesy, tendered by Mr. H. in another paragraph, for which I acknowledge my obligations to him, and in his own words must express my regret, that Mr. H. should use erudition, and exert his talents, to repress the investigation of a fact, in natural science, alleged by many respectable characters, to be true; and which, if true, is important to be known; and if not true, would, by such investigation, be the more effectually exploded.

Mr. H. upon the "petitio principii," assuming that the degeneracy of wheat into cheat, is an erroneous opinion, compares the case to that of a juggler, who appears to change a cork into an orange: the force of this argument is not perceived; it is therefore left to itself, untouched.

Mr. H. asks, where has Dr. M. found satisfactory proof, that wheat is a factitious production; and that the almond is the parent of the peach? these facts are stated on the authorities quoted by me in the same paper; the former is advanced by Buffon, and is recognized and adopted by Dr. Paris, in his Pharmacologia, who offers the "modus operandi," which had been suggested by Mr. Virey, in the "Journal of the

Dict. of Med. Sciences," by which it seems probable, that *essential* alterations may be effected by art, or accident, in the character of plants; the same remarks apply to the case of the almond and peach, which is also adopted by Dr. Paris as true, upon authority and reason, as will be obvious from his notice of the subject.

To this case, that of the peach, I may add the weight of the testimony of Saint Pierre, in his invaluable "Studies of Nature," when, in Study VI, he recognizes it as a fact well known, and not doubted.

Instances are given by Dr. Paris, as well as Saint Pierre, of *essential* alterations produced by adventitious circumstances, on the "banana," "sugar cane," "pine apple," bread fruit, and others, which from long cultivation by slips and suckers alone, do not produce seeds, as originally they did; but they are actually deprived of seeds, and are propagated only by slips and suckers. I would like to know how the key stone fact of the *unvarying* generic characters is sustained in these well known cases.

Mr. H. remarks, the cases adduced by me, if established, are not conclusive to show that "wheat" degenerates into "cheat." It should have been obvious, that they were not offered as conclusive, but merely, with others, as analogies, to facilitate the introduction of testimony upon the point in question, which I had frequently received from good authority, and designed to embody at a future day. In fact, my motive in writing the paper, was chiefly to divest the subject of prejudice, and allow the public mind to act freely upon it; to which I had, at the moment, been directly led, by the public invitation in the "American Farmer;" and I held this to be the more necessary, because I was myself conscious, of having, until within a few years, rejected the facts offered me; and with indecorous impatience, until their numbers, distinctness, and authority, compelled me to respect them.

The vital importance to science, of systematic arrangement, no man can more highly appreciate than myself; but the *absolute* rejection of all facts, however well vouched, that may not coincide with that arrangement, cannot be deemed rational, or philosophic; experience has long since taught the necessity, arising from new facts, of an occasional modification of some of the most perfect theories which science may have adopted: but as a learned author of "natural science" has justly remarked, alluding to the ignorant pertinacity of man, "it is thus, that our general maxims become the sources of error;" for, he continues, "we never fail to charge with *disorder*, whatever seems to recede from our *pretended order*."

The case of the Indian corn, which I introduced, not as conclusive, but as an instance of a remarkable deviation from the rule of "similitude to the parent plant," Mr. H. thinks is not more so than that of a man with a hump on his back, or a tree with a hump on its trunk: the want of parallel really does not need illustration. Linnæus in his sexual system, makes the flower and fruit the foundation of his generic distinctions: these, he (Linnæus) says are "calyx," "corolla," "stamina," "pistillum," "pericarpium," "semina," and "receptaculum;" and he says the presence, absence, number, figure, proportion and situation of these several parts constitute the "Genus;"—Now, in the "corn case" named, all these *essential characteristic marks* were unlike those of the parent plant; whereas the hump on the man's back, and the hump on the trunk of a tree, is a mere deformity, not constituting a point of difference, *essential* to the class, order, genus, or species of either, from the respective originals. The man and the tree might be infallibly identified; but no naturalist could refer the corn to its true source, by its generic marks; they were all, or nearly all absent.

"May I not be allowed to say," I envy not "the philosophical views" of those who confound as parallel such dissimilar cases.

The objection of Mr. H. to the testimony of the

ancients, "that they were men," and "humanum est errare," shall have its full weight, without an attempt to disparage it; I will only repeat, it was not my design to adduce them, or any other authorities, as conclusive, but to show analogies, which would corroborate evidence, on the point in question.

I will now take a "coup d'œil of Mr. "Gleaner," who exultingly "begs leave of the editor, to be in the same field where he has reaped," "by making a few remarks on Dr. Muese's article on 'cheat.'"

What the editor may have reaped I have yet to learn; and what the Gleaner may obtain, may probably not require him for his labours.

The Gleaner complains that I said "the philosopher in his vanity," &c., and he appears to apply the remark to himself, and retorts it with severity; I can only assure him, if I am not much mistaken, I meant no such allusion as he may have conceived.

The corn case, he says, has no bearing on the point, that he can discover. I have herein, and before explained the obvious bearing, and if he can not now discover it, the fault is not with me; he says something about it, (the corn case) that I cannot discover the bearing of—he says "that plants that commonly have stamens and pistils, in separate flowers, occasionally present some, containing both of those organs;" and he says that Nuttall says "that the pistilliferous plants of the hemp, have been known to produce fertile seeds, when cut off from all access to the stamiferous individuals;" and "that, in the case of the corn, there only happened to be pistils intermixed with the stamens of the tassel." Now, I would ask, how is it possible that the pistils being intermixed with the stamens of the tassel, could have transposed the ear, from its usual place, to the tassel, and have produced all the other peculiarities mentioned, and often witnessed by others?

When I said that "Tyro" contained conclusive facts, I may not have been sufficiently explicit; my meaning was, that they were conclusive to show, that the weed in question was an anomalous production, growing where its like had not been seeded; and that I had witnessed *wheat*, &c.; his case, referring to *oats*—and evidences are to be found, be they true or erroneous, both ancient and modern, some of which I quoted, that wheat and barley have been liable to the same deterioration; and oats being of the same class and order as those, and considerably similar in its growth, the testimony was strengthened by the fact adduced.

For the fact of a plant being so altered by adventitious circumstances, as not to be identified, &c. Gleaner will find on revisal, that I did what he requires, "name," "plant," "observer," "age," and "county;" and I have added others in the present paper: my obvious reference was to the alteration of the Linnæan marks of "generic" character, as well as the chemical constitution; and yet the fact of original parentage might with care and attention, be preserved, and his factitious solecism charged upon me, "that it could not be identified, and yet was identified," is repelled. Instances are to be found in many plants, where the "inflorescence," the fructification, the shape of the leaves, and the qualities are essentially altered, and in fact, the identity recognized only, perhaps, by reference to the known fact of the origin.—Every experienced gardener knows the fact that foreign circumstances will change single into double flowers, converting *stamens* into *petals*, thus altering the characteristic distinctions; as with the double rose, which is not reproduced by its seeds, and which Saint Pierre says "Botanists have, for this reason, dared to brand with the name of monster: the '*Ricotta ægyptiaca*' could not be induced to flower until Linnæus suggested mixing clay with the earth: the seminal obliterations in the cases herein named, afford examples of the vast modifications, indeed apparently essential alterations in the growth of plants, by adventitious incidents, and many others might be adduced if necessary. Saint Pierre, on the subject of

such alterations has justly said "naturalists pretend, they are deviations from the laws of nature, because they scorn to conform to their systems."

"Gleaner" says, I am unfortunate in my selection of authorities, having to resort to Pliny; and asks whether I think knowledge has been retrograding for the last seventeen hundred years; I answer, that for sixteen-seventeenths of that period, from the days of Pliny, exclusive, I think it was retrograding, in all the sciences and the arts.

The Botanical part of Pliny's work contains fifteen books, esteemed valuable, for facts and observations, made and collected by him, a learned, acute and judicious observer, or reported to be, of the works of nature; and though his arrangement may have been defective, yet his facts, as I have always understood, are well entitled to high consideration.

I have only now to express my regret, that I have, though undesignedly incurred the displeasure of any one by my communication, or in the slightest degree have excited unpleasant emotions; and I must repeat that my motive was to endeavour to divest the subject of that repugnance, or I might say, antipathy, which is usually entertained upon the contradiction, be it ever so partial, of our received opinions, and which I confess I did myself experience, until satisfied of the truth, as I still believe, by testimony which could not be resisted; and I consider it unphilosophic, to attempt to repress a fair and full examination of an opinion, sustained by numerous and respectable authorities, whose aggregate of moral force may claim at least a share of consideration and respect; when, if false, it may be banished by the inquiries, possibly, of the present year; or, if true, like many others equally "marvellous" and unacceptable, to the vain philosopher, it may stand for future solution, or as evidence of the imperfection of human theories and systems.

Finally, and very respectfully,

JOSEPH E. MUSE.

(From the Genesee Farmer.)

SEED CORN.

Steeping Seed Corn in Coppers Water no security against Wire Worms—Tarring Seed Corn recommended as a security against Crows, &c.

Marcellus, April 12, 1832.

It does not appear that any means are yet known by which the corn crop can be secured from the mischievous effects of the wire worm. For several years, the farming community have been tantalized with the hope and expectation that this might be done by certain preparations of the seed. That of steeping the seed in a solution of coppers has been most relied on. Several publications have appeared in different volumes of the New England Farmer, encouraging the expectation, that this would afford the desired security. That such a preparation, by rendering the seed unpalatable to the worm, might operate as a security so far as related to the seed itself, did not appear unlikely. But when it was considered that the wire worm operated not only on the seed, but also on the blade or plant, and continued its operations till mid-summer, it was not easy to account for the effect attributed to such a preparation of seed. Although the seed itself might by this means be secured, yet, it was not to be expected that much good would result from this, if the insect were to be present, and ready to prey upon and devour the plant in all the early stages of its growth. That poisoning the seed would impregnate the plant so as to give it a disrelish to insects, appeared quite improbable. Although my own reasoning on the subject presented these discouragements, yet, having suffered severely by the wire worm, I availed myself of the first opportunity, after hearing the suggestion, to try the experiment. My experiments were prosecuted during three successive years, closing in the year 1830. The first season no satisfactory results were produced; for my corn, in that season, was all in one field, and on a part of my farm where the

wire worm had not been known to operate. One part of the field was planted with prepared seed; the other with seed unprepared. Both were alike uninjured by the wire worm. The next season I planted on another part of the farm, and on a different soil, where it was known the wire worm inhabited, and where crops had previously been injured by it. My seed was prepared as before, by steeping it twenty-four hours in a solution of coppers, formed by dissolving one pound of coppers in a sufficient quantity of water to cover half a bushel of seed. In addition to this, the seed was tarred and plastered as will be described hereafter. The result of this experiment was a complete failure, the crop being nearly ruined by the wire worm. The next year, that is, the third of my experiments, it was desirable to plant with corn a small piece of ground which was suspected to be densely inhabited by wire worms. In other respects, the soil was excellent for the corn crop. Considering it as possible that I had not been thorough enough in my former experiments, I concluded to try again, and be more thorough. I now added considerably to the strength of my coppers solution, and steeped the seed fifty hours. After this, the seed was thoroughly tarred and plastered as before. The result of this experiment was disastrous in the extreme. But very few hills in the whole piece, containing nearly an acre, escaped the ravages of the wire worm. The crop was scarcely worth harvesting. The seed, in general, came up well, though not without some exceptions. If the preparation afforded any protection to the seed itself, it was but a partial one; for I dug down to the seed in several hills, and in some instances, found the worm actually engaged in devouring the seed kernel. Here closed, probably forever, my experiments for protecting the corn crop from the wire worm, or any other worm, by means of any preparation that can be given to the seed. I have thus given my experiments truly, together with their results, all which is respectfully submitted to the judgment of the farming community. If the time ever was, when I placed confidence in any preparation of seed corn, as a protection against worms, I have now lost all that confidence. And my only inducement to publish this article is, to save my brethren of the farming class from useless trouble and expense.

Neither do I place much confidence in any preparations of seed corn, the object of which is, to give to the crop better thrift, and secure a more abundant produce. Steeping the seed in a solution of nitre has been recommended as a means of improving the crop. Several experiments, long since prosecuted by myself, did not appear to produce the expected results. Such preparations, after a few unsuccessful experiments, were of course discontinued. I am now ignorant of any preparation, of which seed corn is susceptible, by which a better growth can be secured to the crop.

Although it is believed no preparation of seed corn will avail as a protection against worms, or contribute materially to the improvement of the crop, yet there is a preparation that, with a view to another object, may be given to it to great advantage. That is tarring the seed; and the object is, to secure it from crows, hens, black-birds, and all others of the feathered tribe. I have practised preparing my seed corn in this manner for more than thirty years; and think I have not failed of doing it, except in two instances, during that length of time. When I did fail, I had abundant cause to repent of my negligence. I can recommend this as an effectual security against all manner of fowls that have been known to disturb corn fields. I have never known any serious injury to be done by fowls of any description, on a field planted with the seed prepared in this manner. I have known crows to light on a field so planted, and take up a few hills of corn; but as the food did not suit their relish, they soon quit it, and flying off, uttered tones expressive of great resentment. I have known hens to do the same; but in no such case was the injury of any serious amount. Fowls are frequently very mischievous in corn fields and

gardens that lie within their range; and on that account, it is sometimes considered as unsafe to plant corn on such locations; but if the seed be well tarred, it may be planted any where with entire safety, so far as relates to the fowls. By preparing my seed in this manner, I have for many years saved myself from all the trouble, vexation, and damage, which the corn planter so frequently experiences, by the visitations of crows, hens, black birds, &c. I have had no occasion to put up scare crows in my corn fields; nor have I done such a thing for more than thirty years. Nor has it at any time been necessary to set a watch about my fields to drive off winged depredators. I can assure my farming brethren, that the object is not a trifling one. I consider such a preparation of seed corn as almost indispensable; and were I about to plant only a few quarts of seed, rather than fail of tarring it, I should subject myself to expense and trouble of sending abroad several miles for tar. This I have done in several instances.

Presuming that it will be gratifying to some to be informed of my process in tarring seed corn, I will give a statement of it in detail. In the first place, if I have a considerable quantity of seed to prepare, I supply myself with an apparatus. This consists of a kettle or tub to hold the seed, a small iron kettle, skillet or spider for the tar, a basket, a stirring stick, and a small quantity of plaster or ashes. These things being ready, and the corn having been put into the kettle or tub provided for it, the next process is to pour upon it warm water. I have applied boiling water, without any detriment to the seed; but I prefer using it at a temperature considerably below the boiling state. The object of this is merely to render the corn so warm as to prevent the tar from stiffening during the subsequent operations. Having remained in this situation a few minutes, the water and corn together are turned into a basket. This is done for the purpose of draining off the water. After draining, the corn is put back into the kettle or tub in which it was before, and is then ready to receive the tar. The tar, having been warmed sufficiently to reduce it to a fluid state, is then applied in small quantities at a time, the operator making free use of the stirring stick. The process is continued by pouring on tar, and stirring, until all the corn is thoroughly daubed with tar. The closing process is that of applying plaster, ashes, or lime. Plaster is the best, and is probably of some use in giving better thrift to the crop. The object of this application is to correct the cohesion occasioned by the tar. One of these substances is applied, and by stirring, intermixed with the corn, until the whole mass is entirely cured of its cohesiveness. After this, the corn can be planted with as little inconvenience as if nothing had been done to it. A peck of seed is as large a quantity as will be found convenient to operate upon at any time. It should be noticed here, that this preparation does not protect seed from hogs, pigs, squirrels or mice. It is useful only as a protection against damages by the feathered family. This is an important object. The process of tarring is simple, and easily performed. But a small quantity of tar is required, about one quart being sufficient for a bushel of seed. The tar, however, should not be applied sparingly. No injury, to my knowledge, has ever been done to seed, by applying to it too much tar.

I intended, in connection with this subject, to make some remarks on the prize essay on the culture of corn, published in the Genesee Farmer, No. 2, Vol. 2. But my subject having led me to so great a length, I shall omit it, only cautioning the farming community not to be too hasty in adopting the theory of that essay in so much as relates to low planting, that is, planting deep beneath the surface of the soil.

DAN BRADLEY.

Cotton, to the amount of about \$2,000,000, is annually imported into Providence, and manufactured into cloth, which sells for about \$7,000,000.

(From the Genesee Farmer.)

STRAW.

In No. 1, I promised not to be a very frequent visitor in the columns of the Farmer, but I find upon employing my leisure moments, that I have more than I was aware of; and the interest that I feel for the welfare of our "farming community," is the only apology I have to offer for laying my ideas before the public.

Since the introduction of thrashing machines into this part of the country, it is a very common thing to see large heaps of straw around the barns where they have been in operation. Many farmers are at a loss what to do with it, or how to manage it to the best advantage; while others are so indifferent about these things, that to get it out of the way with the least trouble is their only care.

It is an object of the highest importance to every judicious farmer, to understand the right application of manures. Plants need food as well as animals, and he who neglects to feed the former, might, with about as much propriety, neglect the latter, for without the former, the latter could not exist. The existence of man, and all the inferior animals, depends upon the annual quantity of plants which the earth brings forth for our use; but by a careless mode of culture, and a neglect to supply the proper nourishment, the best soils will soon begin to degenerate, and at last refuse to pay the husbandman for his toil.

Dry straw is considered by some to be worth but little for manure; and it is worth nothing, indeed, so long as it remains in this state. Others are prevented from applying it on account of its comparative bulk—and the consequence is, it is suffered to remain in the barn yard, exposed to sun and rain, until it is reduced by fermentation to a black mass of carbonaceous matter.

By this means, much of the manure is lost by evaporation, and the noxious gases constantly emanating from such a body, render the atmosphere very impure, and are oftentimes the cause of much sickness and disease, the neglect of man, thus suffering those gases to poison the air which he breathes; which, if properly applied, would be converted by the order of nature into the most healthful nutriment.

The true economical method of making the most of manures, is to bury the whole under the soil before fermentation commences. In this manner the whole is saved. When decomposition takes place, the gases, as fast as liberated, are taken up by the roots of the growing plants, entering into new combinations, and forming new plants, to flourish for a period and then wither and decay like the former. But to return to my subject, the best method of applying straw as a manure, is to spread it over ground intended for corn, so as completely to cover it. When the ground is ploughed, a man should follow the plough with a rake, raking the straw into the furrow, for a space just wide enough for the next furrow. It is necessary that the ground should be ploughed deep, and the straw raked in and trod down completely, the raker walking in the furrow to tread the straw down, so that it may all be covered up by the plough. The ground should not be ploughed again, as it would plough up the straw. If it is well covered, but little of it will be disturbed when working among the corn. The effects of the manure will be the greatest at the latter end of the season, when it is most needed. At the time of the filling out of the ears, the action of the manure applied in this way is peculiarly adapted to the purpose, as it then exerts its greatest influence and causes the cob to be covered with kernels of good size to the very end.

The effects of manures applied in this manner last longer, although their immediate influence is not quite so energetic.

"It appears from the experiments of Hassenpatz, (says Dr. Thomson,) that substances employed as manures produce effects in times proportioned to their degree of putrefaction: those substances which are

most putrid, producing the most speedy effects, and of course soonest losing their efficacy. Having manured two pieces of the same kind of soil, the one with a mixture of dung and straw highly putrified, the other with the same mixture newly made, and the straw almost fresh, he observed that, during the first year, the plants which grew on the land manured with putrified dung, produced a much better crop than the other: but the second year, (no new dung being added) the ground which had been manured with the unputrified dung produced the best crop; the same thing took place the third year, after which both seemed to be equally exhausted." Yrus.

(From the Genesee Farmer.)

MOSSY LANDS.

Middlesex, March 6th, 1882.

MR. GOODSELL.—In your paper of the 25th ult. your correspondent, Timothy, inquires what he shall do to cure mossy land: I answer, there are three ways in which such land may be helped.

1st. If it is occasioned by too much water, and the land has sufficient descent, then ditching is the obvious remedy.

2d. If the land lies too low to be cured by ditching, then I should recommend to cart on a plentiful dressing of pit sand and chip-dirt, to be dropped in alternate heaps, to be spread so as to raise the surface about an inch; plough it, harrow it, and seed it anew: but lands of this kind are sometimes miry, and cannot be ploughed. In that case I should recommend

3dly. To haul on a plentiful dressing of pit-sand only: let it be spread over the surface, scatter on some timothy and red top grass seed; in a few years the sand will subside, and the rich mole below it will rise to the surface, and the land will be permanently cured of its disposition to become mossy. If the land be naturally dry, and the grasses merely run out, then simply ploughing and re-seeding will be sufficient; but where it is too low and wet, I think ploughing can afford no permanent benefit, because the land will in a few years settle to its former level, bringing with it the water and moss. Such is the result of my observation and experience on this subject—and I remain, Yours, etc. R. M. WILLIAMS.

HORTICULTURE.

(From the Library of Useful Knowledge.)

PLANTING.

(Continued from page 45.)

CHAPTER VIII.

Enumeration of the different species of Forest Trees.

In the following list the trees are arranged in the order in which they are supposed to stand in natural alliance with each other; but being a selection from the whole vegetable kingdom as regards one property, only that of producing timber in the climate of Great Britain, there will be found therefore great breaches in the natural connexion between many of the individuals comprising a list so formed; and on this account, and the want of space, as well as that the Linnean botanical descriptions are equally efficient in distinguishing one family of plants from every other, and different species of plants from each other, the Linnean descriptions are only given.

MAGNOLIACEÆ.

Polyandra Poly. Linn.

Eng. Name.

Bot. Name.

CUCUMBER-TREE OF MAGNOLIA.

MAGNOLIA.

GENERIC CHARACTER.—*Calyx*, three-leaved; *petals*, nine; *capsule*, two-valved, imbricated; *seed*, berry, pendulous.

Time of sowing seed—as soon as it can be procured from abroad. Sow in pots filled with a mixture of

loam and peat, and plunge them into an old hot-bed of tanner's bark. They may also be propagated by layers.

Uses.—Veneering, the purposes of the turner, and those of timber in general for in door works.

Species for Ornament, Shelter, or Underwood.

MAGNOLIA.	CUCUMBER TREE.	Native of Ft.
Umbrella-leaved	<i>tripitata</i>	N. Amer. 35
Bluish-flowered	<i>acuminata</i>	— 25
Heart-leaved	<i>cordata</i>	—
Great flowered	<i>grandiflora</i>	60-70
Long-leaved cucumber	<i>auriculata</i>	20
Large-leaved	<i>macrophylla</i>	30

Magnolia grandiflora. Big laurel and large magnolia of America, and laurier tulipier of the French, is first seen in North Carolina, near the river Nuse, in the latitude of 35° 31'; and proceeding from this point, it is found in the maritime parts of the southern States and of the Floridas, and as far up the Mississippi as Natchez, 300 miles above New Orleans, which embraces an extent of 2000 miles. According to Michaux, the *magnolia grandiflora* claims a place among the largest trees of the United States, as it sometimes reaches ninety feet in height and two or three in diameter, but its ordinary stature is from sixty to seventy feet. Its trunk is described as being commonly straight, and its summit nearly in the shape of a regular pyramid. The same author observes, that they who have seen this tree in its native soil, blooming with its large white fragrant flowers disposed amidst the rich foliage of the tree, agree in considering it one of the most beautiful productions of the vegetable kingdom. In Carolina it blossoms in May, and the seeds are ripe about the beginning of October. The wood is soft, and remarkable for its whiteness, which it preserves even after being seasoned; it is said to be easily wrought, and not subject to warp, but that it is not durable when exposed to the weather; for this reason the boards of the *magnolia grandiflora* are used only in joinery in the interior of buildings. In its native climate it grows only in cool shady places, where the soil is composed of brown mould, and is loose, deep, and fertile. The seeds preserve their vegetative powers several months out of the ground. A single tree sometimes yields four hundred cones, each of which contains from 40 to 50 seeds. The most northern point which this tree passes the winter in the open air, is about Nantes, in lat. 47° 13', but it begins to bear ripe fruit about Grenoble, in lat. 45°. In a garden near Philadelphia, Michaux saw a tree of this species, which bore uninjured the rigorous climate of this part of Pennsylvania, which is much more severe than that of Paris or London. In England the *magnolia grandiflora* is more injured by being planted in an ungenial soil than from the severity of the climate. The fact is, the soil should be that above described, but not an insulated portion, as is mostly the case in practice, by digging a hole and supplying it to the plant merely to that extent, whereas it should be general over a large extent of surface, so as to effect the atmosphere by its peculiar exhalations, thus acting on the leaves as well as on the roots. The *magnolia grandiflora* was introduced into England about 1731.

Magnolia glauca.—This tree is found common in Lower Jersey, but is also found in latitude 45° 50', near Cape Anne, in Massachusetts, N. America. In the Carolinas and in Georgia it does not ordinarily exceed twenty or thirty feet, although it sometimes attains to forty feet in height. At New York it yields fruit at the height of five or six feet. The wood is considered not to be of any value in building. The flowers are fragrant, and the bark of the roots has an aromatic odour and a bitter taste. The country people in Lower Jersey drink an infusion of this bark in brandy as a remedy in rheumatic affections, and an infusion of the cones in whiskey is regarded by them also as a preventive against autumnal fevers.

Michaux, 11.) This tree appears to have been introduced into England in 1688.

Magnolia acuminata is common in all parts of the United States of America, where it is generally known under the name of the cucumber-tree. Its stature is similar to the magnolia grandiflora, rising to sixty or seventy feet, and sometimes even as high as ninety feet. It is found as far north as the 43d degree of north latitude, near the celebrated cataract of the Niagara river. The inhabitants of the countries bordering on the Alleghenies gather the cones about midsummer, when they are half ripe, and steep them in whiskey; a glass or two of this liquor, which is extremely bitter, is a preservative against autumnal fevers: on this Michaux remarks, that though he does not deny the efficacy, the remedy has not been made sufficiently evident to induce any physician to attempt its verification. In its native soil, Michaux describes the trunk as perfectly straight, of an uniform size, and often destitute of branches for two-thirds of its length, the summit ample, and regularly shaped; the flowers are five to six inches diameter, of a bluish white, having a feeble odour, but as they are so large and are numerous, they have a fine effect in the midst of the super-foliage. The wood is soft, and like that of the poplar, is fine grain, and susceptible of a brilliant polish, but it is neither strong nor durable when exposed to the weather. In England this tree is perfectly hardy, and attains to a considerable size. Introduced into England in 1736.

Magnolia cordata, heart-leaved cucumber-tree, in its native soil of the banks of the river Savannah in Upper Georgia, and those of the streams which traverse the back parts of South Carolina, attains to forty and fifty feet in height, and from twelve to fifteen inches in diameter. The leaves are from five to six inches in length, and from three to five in width; the flowers, which appear in April, are yellow, and are nearly four inches in diameter. The wood is of no determinate use, but the tree is very hardy and ornamental in parks. Introduced into England in 1801.

Magnolia tripetala, umbrella-tree, is found in soils deep and fertile in the northern parts of New York, and is common on some of the islands of the river Susquehanna. Near the great swamps of South Carolina and Georgia it is almost invariably accompanied by the magnolia grandiflora and swamp chestnut oak. It is of humbler growth than the magnolia grandiflora, seldom attaining to thirty or thirty-five feet in height, with a diameter of five or six inches. The leaves are eighteen or twenty inches long, and seven or eight feet broad; the flowers are white, and seven or eight inches in diameter. The fruit is four or five inches long and two inches in diameter. The wood is light and porous, and unfit for use. The tree is highly ornamental and very hardy. Introduced into England in 1752.

Magnolia aviculata, long-leaved cucumber-tree, is equally remarkable with the magnolia tripetala, for the beauty of its foliage and the size of its flowers, which are also of an agreeable odour, and is found, Michaux observes, only in a small tract far retired in the country, at the distance of 300 miles from the sea, on a part of the Alleghany mountains. In its native soil it attains to forty or forty-five feet, and a diameter of twelve or fifteen inches. The leaves are of a light green colour, of a fine texture, eight or nine inches long, and from four to six inches broad; the base of the leaf is divided into rounded lobes, whence the name ear-leaved. The flowers are white, and from three to four inches diameter. The wood is light and spongy, and unfit for the purposes of the carpenter. The bark is stated to have an agreeable aromatic odour, and an infusion of it in ardent spirits is employed as an excellent sudorific in rheumatic affections. It is a hardy tree, and very ornamental for parks. Introduced into England in 1786.

Magnolia macrophylla, vel *Michauxii*, large-leaved cucumber-tree, is more remarkable for the superior

size of its leaves and flowers than any other species of this genus. It resembles most the magnolia tripetala in its general habit of growth, and it is generally found growing in company with it. The leaves are sometimes thirty-five inches long, and nine or ten inches broad. The flowers are white, fragrant, and larger than those of any other species of magnolia, being sometimes eight or nine inches in diameter; the buds are compressed, instead of being rounded at the end, as in the magnolia tripetala, and they are covered with a soft and silvery down: this circumstance affords a ready distinction between these species at that season when the flowers and leaves are absent. The wood is of an inferior quality. The tree is highly ornamental. In its native soil, according to Michaux, it grows to the height of thirty-five feet. Introduced into England in 1800.

The other species of magnolia or cucumber-tree in the gardens of England, come at present, or as far as experience of their habits in this climate indicates, exclusively under the head of ornamental plants or shrubs, and consequently they are omitted in this enumeration.

TULIP TREE.

LIRIODENDRON.

Calyx, three-leaved; *petals*, six; *seeds*, into a strobule, or cone.

Time of sowing seed—spring. *Soil*, light earth, to be shaded from the heat of the mid-day sun.

Uses—The wood is esteemed for its lightness and durability, and in the western states of North America, it is used as a substitute, in building, for the wood of the pine. The inner bark of the branches and root is used as a substitute for the Peruvian in remittent and intermittent fevers. It delights in a light rich loamy soil. It has been known to measure 22 feet in circumference, and to rise to 120 feet in height. Introduced into England in 1688.

Species for Ornament, Shelter, or Underwood,

Common	<i>indisfera</i>	N. Amer.	60
Var. Entire lvd.	<i>integrifolia</i>	—	—

TILIACEÆ.

Polyandria Polygynia. Linn.

Trees of the habits and general appearance of the common Lime or Linden-tree.

LIME-TREE.

TILIA.

Calyx, five-parted; *corolla*, five-petaled; *capsule*, coriaceous, globular, five-celled, and five-valved, opening at the base; *seed*, one or two in each cell, roundish, covered with a coriaceous globular-shaped capsule, which has five valves, five cells, and opening at the base.

Time of sowing seed—Autumn, in a shady border of moist, light soil; but the usual mode of propagation is by layers. *Soil*—in almost any kind of soil, if moderately damp.

Uses—The wood is light, delicately white, and of an uniform texture, useful for some domestic purposes, and for those of the carver. Gibbon's inimitable carvings of flowers, dead game, &c., were of this wood, Br. Fl., vol. iii. p. 18. The bark of this, and probably of other species of lime, makes the Russian mass called *bast*. As an ornamental tree, the lime is esteemed for the fragrance of its flowers, of which bees are very fond.

Mr. Boucher says, at eleven years old the plants will be twenty feet high; and at sixteen years old, from thirty to thirty-five feet high. The common yellow twiggled lime, called also linden tree, and smooth-leaved lime, was formerly more than now a great favourite with planters. Whether it be properly a native of Britain, seems to be uncertain, but that it has been long naturalized in this country is certain. A lime tree is described by Dr. Turner as growing near Colchester, which must have been cultivated in England before 1562. Du Hamel states that the

French, in the reign of Louis XIV., growing tired of the horse chestnut, adopted this tree, and Sir James Smith, in his English Flora, observes, that it generally composes the avenues about the residences of the French as well as English gentry of that date, and that Fencelon, in conformity to this taste, decorates with "flowery lime trees" his enchanted isle of Calypso. The fragrance of the flowers are well known; they constitute an useful ingredient in *pot-pourri*. Bees are attracted, in great numbers, to collect honey from the flowers, in the season of flowering. The wood is smooth, delicately white, and uniform in its texture; it is observed to be little subject to the attacks of insects. The beautiful carvings of Gibbon, before mentioned, which are dispersed about the kingdom, as in the choir of St. Paul's, Trinity College Library, at Cambridge, the Duke of Devonshire's Chatsworth, &c. are stated to be of this wood. It is also used by the turner in manufacturing light bowls, and boxes for the apothecary. The bark contains much mucilage; by maceration it separates into thin tough layers, which are manufactured into garden-mats, sometimes termed *bast mats*. These are well known to form a considerable part of the exports from Russia.

The broad-leaved lime, *tilia grandifolia*, attains to as large a size as the common linden; the young wood of the shoots is often red. The leaves have rather longer foot-stalks, the *rib*s and *veins* minutely hairy, or curiously fringed above the origin of each; all the under side of the leaves is finely downy, but not glaucous, as in the *tilia parvifolia* and American limes. This species, or, perhaps, variety, has been found in woods and hedges at Whitstable, Surrey; on the banks of the Mole, near Boxhill, by Mr. E. Forster; near Streatham Wells, Surrey, by Mr. Dobois; and in Stoken-church woods by Mr. Bicheno, but apparently planted. This is stated to be the wild lime of Switzerland and the south of Europe, as the common species, *europæa*, is of the north. The coral lime is so nearly allied to this species, as to be considered by some botanists a variety only.

The small-leaved lime, *tilia parvifolia*, flowers about a month later than the last-mentioned tree. It is supposed to be the only true native species of lime. It is to be found frequent in Essex, Sussex, and Lincolnshire, and elsewhere, according to Ray. The leaves are much smaller than those of the above, being about two inches broad, dark green, and quite smooth above, glaucous underneath, with brown hairy tufts at the origin of each of their principal veins, as well as broad hairy blotches frequently found scattered over their surface. The comparative value of the timber of these last-mentioned species has not yet been determined. Among the American species of this tree the *smooth* or *bass wood*, *tilia Americana*, is distinguished. Michaux informs us that he found it most abundant in Genesee, which borders on Lake Erie and Ontario. In some districts between Batavia and New Amsterdam, it constitutes two thirds, and sometimes the whole of the forests. It attains to the largest size in a loose deep fertile soil. It is found 90 feet in height, and 4 feet in diameter. The wood is white and tender, and is, in some places, substituted for that of the tulip tree for the panels of carriage bodies, and the seats of Windsor chairs.

The white lime, *tilia alba*, is chiefly found on the banks of the Ohio, Susquehanna, and those of the streams which empty into them. The same authority observes, that it rarely exceeds 40 feet in height, and 12 or 18 inches in diameter.

The downy lime, *tilia pubescens*, is a native of the Floridas, and Southern parts of the United States. It resembles the American lime tree more than the preceding. The leaves are very downy on their under side, obliquely truncated at the base, and edged with fewer teeth than the other species. The flowers are also more numerous, and produced in larger bunches. The wood has not been proved as to its properties. All these trees are ornamental, and afford a cool shade in summer.

Timber or Forest Species.

LIME-TREE.	TILIA.	Native of	Fl.
Red-twigged Lime-tree	<i>rubra</i>	Britain	50
Yellow	<i>europæa</i>	Britain	50
Var. Jagged-lvd.	<i>laciniata</i>	Britain	30
White	<i>alba</i>	Europe	30
Downy-leaved	<i>pubescens</i>	Carolina	20
Smooth	<i>grandifolia</i>	Britain	—
Var. coral-twigged	<i>corallina</i>	Britain	—
Broad-leaved	<i>glabra</i>	N. Amer.	30
Silvery-leaved	<i>argentea</i>	Hungary	—

Species for Ornament, &c.

Long-petaled	<i>petioliris</i>	—	—
--------------	-------------------	---	---

(To be continued.)

CULTURE OF THE VINE IN GEORGIA.

Extract of a letter to the Editor of the American Farmer, dated

M. Donough, Henry Co. Geo. April 16, 1832.

No paper that I have taken, and I take ten or twelve, gives me half the gratification I receive from the Farmer. The information I get on the vine culture I value much; for although I have every work on the subject, I could get in New York and Philadelphia, yet the concise practical remarks I find in many numbers of your useful paper, are much more to the point than the mass to be found in books on the vine, written only for sale. Useful information is scattered through the whole series of the Farmer, but the four or five last volumes I prize highly for many of the articles on the vine.

My vineyard of about three acres, I believe thriving, although I am fearful from the experience of others, that my Northern vines must generally be laid aside. I shall gradually extend my vineyard 2 or 3 acres a year, if my health is spared me, until I shall have 9 or 10 acres in vines; but I am under the impression at this time, that I shall restrict my kinds of grapes to about five or six of those that flourish best in our climate, except so far as I may cultivate others by way of experiment. Those I think most highly of are the Bland Madeira, Violet, do Tokay, Warrenton, and Isabella.

Of the latter I have sanguine hopes, notwithstanding the predisposition to rot so often laid to its charge, and which I have in some degree experienced; yet I am convinced that high culture will prevent it. Another excellent quality I have found in my Isabella vines; they bleed but a very few hours, if pruned even after the leaves shoot. I have experimented upon them in every stage, from fall pruning until within a week past; and as they heal or stop bleeding so soon, I decidedly give the preference to spring pruning for the Isabella, as I think it will be kept from vegetating 2 or 3 weeks later than if pruned in the fall. At least I have tested that fact to my satisfaction, by my own experience this spring.

My other vines pruned late bled much more profusely than the Isabella, but vegetation is so rapid and the growth of the vine so great, I have no doubt the depletion will not injure it in the least, but have a tendency to keep back vegetation, so that our late spring frosts will have no effect, and the late frosts will, I have no doubt, be the greatest enemies vine-growers in our climate will have to contend with.

A. S.

(From the New York Farmer.)

FORCING FRUITS AND VEGETABLES.

Albany, March 12.

Strawberry Forcing—The Strawberry may be considered as an extra crop; it being generally forced to fill up the vacancies on flues and other departments in cherry houses, vineries, &c. However, it never thrives well in any other situation than the front of the cherry house; with an exception of its being put into a pine stove, or graperies to ripen the fruit, after it is set.

I shall, in my usual way, give my ideas of the forcing of this fruit, separately, and leave the shifting of it in different apartments to the judgment of the practitioner, who will be able to judge for himself, from its nature and operation. I would recommend the Strawberry to be forced in pots from six to eight inches in diameter, the pots to be filled with a rich loamy soil incorporated with rich rotten manure, if of vegetables, the better. The pots should then be plunged in the ground in a western aspect, in the months of August and September. When the runners of the intended sorts are well rooted, they may be taken up and trimmed as usual for planting. The plants may be dibbled, three in a pot triangle, and often watered, to get them well rooted in the pots. They may remain in this situation until the frosty weather commences, when the pots should be taken up and protected until they are taken into the house or pit. The strawberry forces admirably well in pits adapted purposely with a staging, so as the plants may range from a foot to eighteen inches under the glass; or they will do well in a small house to range with a stage in the same manner. But the best method I am acquainted with is, to force them in a pit, plunged in a quantity of old rotten tanner's bark, into which the pots may be plunged to the rim, by which the tan will keep the pots always moist. When plunged, commence forcing, by keeping the pit from 40° to 45° of fire heat, and from 50° to 65° sun heat, giving plenty of air in the middle of the day, and moderately watering the plants of a morning. When the plants begin to make young leaves, you may pick off the old. This may be continued until they come into flower, when they must be well watered, but care must be taken not to wet the flower, which will be injurious to the setting of the fruit. The plants will require a free circulation of air in this stage, which will greatly assist in setting the *farina*. If the sun shines very strong on the glass, the pit must be shaded from 11 to 1 o'clock, as the influence of the sun is very injurious to strawberries in flower, where they are confined with internal heat: which is often the cause of many crops being lost by being blinded, as is termed by gardeners. I know not of any fruit that is forced, that shading is so requisite for, as the strawberry in this state. When the fruit is properly set and begins to swell, the shading may be omitted, and if in any haste of being ripened, it may now be forwarded, by giving a considerable watering, say twice a day, and more heat in proportion. One thing must be observed, never to let the pots get dry, which will greatly retard the swelling of the early fruit and impoverish the late; so as it will not come to maturity. When the fruit is beginning to color, the watering may be partly omitted; as too much water will spoil its flavor. The fire may be kept from 60° to 65° fire heat, and from 65° to 75° sun heat, to ripen the fruit.

AGRONOME.

RURAL ECONOMY.

(From the Raleigh Register.)

WINE MAKING.

Messrs. Gales & Son—In place of a didactic essay, it may be an agreeable relief to have a detail of the practices of the Island of Madeira. This paper will contain a brief extract from the Journal of our Naval Officers who visited that Island in 1819.

Madeira is in the latitude of Charleston. The sugar cane was formerly cultivated, but it has now given place to the vine. This is planted from long cuttings in rows. A southern aspect is sought for, and is necessary to making the best wine. Trenches are opened four feet deep, and cuttings are planted in the inclined plane. After sprouting, the earth is drawn from the first ridge into the second trench, covering the vines nearly six feet. Where the land is dry, stones are thrown into the trench. When the vine is grown to require support, a lattice work for it to

spread on is raised three or four feet from the ground on posts, higher on the north side and lower on the south to give an equal exposure to the sun, and throw off the rain. This method I have never seen elsewhere. In Italy and France they are festooned on poles or cling to stakes. It is generally three years before any benefit is received from a new vineyard, and six before it comes to perfection.

Bad vintages are occasioned by foggy weather in April, May, or June; by east or Sirocco winds in July and August, or heavy rains in August and September.

The vintage on the south side of the island commences early in September and lasts to the middle of October. Grapes are gathered when fully ripe, and after some few have become raisins. They are put into a square vat, pierced with holes, not large enough to let the skin of the grape pass through; they are then stamped by men and drained into a receiver.—The refuse is afterwards pressed. After a slight fermentation, the wine is drawn off into casks or sent to town in goat skins. There is a great variety of grapes and they are all mixed to make the common wines. The Tinta is a very high flavored red wine, made from the Negromole and Verdella. The Serical from a Rhenish grape, and the Malmsey from the Malvasia, which last are kept on the vine until two-thirds of them become raisins, and sugar is sometimes added. The Ruas is the best grape, and wine made exclusively from it, is of the highest flavor.

When the wine dealer receives the wine, if in must or perfectly new, it is put into casks and worked several days with a paddle put into the bung-hole. When the fermentation ceases, it is drawn off into large casks and the best French brandy is added, in the proportion of about one-twelfth to suit the market it is intended for. The wine is then left to ripen, each quality separate. It is then fined withisinglass, an ounce to a pipe of 110 gallons, stirred up with a paddle.

To prepare the pipes they are filled with water for some months, then washed with hot water, and rinsed with brandy. A large lighted match of sulphur is then to be put into the bung-hole, and when the pipe is full of smoke it is closed tight until the cask is wanted.

The wines from the north of the Island, and such as are not of the first quality, are kept for some months in hot houses, at a temperature of from 90 to 100 degrees, to mellow them.

RICHARD.

(From the Genesee Farmer.)

BUTTER.

In the 11th No. of the Farmer, I find some remarks on the making and preservation of butter, by Judge BUEL, which I read with much interest, fully agreeing with the Judge in every particular. I will suggest one precaution which ought to be kept in view in building or preparing milk houses or rooms, which is, to have them so situated as to have them ventilated in the northwest, west, or north side, that they may have all the benefit of the air from those points of compass, and exclude as much as possible the air from the opposite direction. When air is admitted, it should have a free circulation through the room.

O. S.

(From the Genesee Farmer.)

STRAWBERRY PLANTS.

Greatfield 3d mo. 31, 1832.

I had repeatedly found it unsafe to set out strawberry plants later in autumn than the middle of the tenth month, for they were almost sure to be *thrown out* by the frost. On examining the matter, I discovered that according to the common mode of planting, the soil was left loose and porous, capable of retaining an excess of moisture; and that when this was converted into ice, the plants were dislodged and destroyed.

In the present volume of the Genesee Farmer, at

page 47, I have stated the success of *firmly treading down the earth immediately after setting out the plants*. I have again successfully attested the value of this method. Last fall, about the middle of the 11th month, I was generously presented with some plants of the Methven, and of another fine strawberry, which were set in the manner described; and though they have had no kind of covering or shelter whatever, not one of more than thirty has been started from its place; neither have I any apprehension that any frosts that may happen this season, will endanger their safety. D. T.

Preserving Strawberries.—Mrs. B. gives the following directions:—For every pound of berries take one of sugar. Dissolve the sugar in water over the fire; skim off the impurities that rise. When boiling hot, scald a few berries at a time; take them out and put them into a tumbler or small jar. Thus continue until all are scalded; putting only a few into one vessel or jar, in order to keep them whole. Boil down the syrup and pour it on the berries.

MISCELLANEOUS.

(From the Southern Agriculturist.)

INFLUENZA.

Remarks on the Influenza (*Catarrhus a Contagione*) of 1831 and '32; with a simple mode of treatment.

MR. EDITOR: "West Point, St. Simon's Island, (Geo.) {
February, 1832. }

Experientia docet omnia.

Agriculture being the pursuit, and principal dependence of the Southern planter, it follows that we are not only deeply interested in the preservation and general improvement of our soil, by every possible mode and manure, but our existence as a people is inseparably connected with the health, prosperity, and longevity of our slaves. They are, indeed, a *sine qua non* to Southern prosperity, without whose co-operating agency our Carolina and Georgia would very soon return to its original state of barren wildernesses, and impervious forests.

The present winter has been marked by singular and most extraordinary extremes; excessive heat and intense cold have followed each other in rapid succession; and we feel most sensibly its baneful influence in the unusual degree of sickness which prevails amongst our black population. At this very moment I hear of every quarter of innumerable cases of influenza, and very many of a complicated and dangerous character. This ill-fated pestilence appears to assail all ages, sexes, and habits; the saint and the sinner alike; very few have escaped, and a larger number have been summoned into eternity, through its malignant agency.

Having carefully observed for the last ten years, that our slaves have been more subject to violent disease, and even untimely death, during the winter months than they were all the remainder of the year, I have thought that it would be highly acceptable, if each planter or his agent, would from time to time communicate a plain and faithful history of the health of their plantations, the character of disease, and the treatment which has actually been found most beneficial.

For the last ten years we have not lost a single adult slave at West-Point, St. Simon's Island, except by accident and extreme old age. Children, and young babes have suffered, and some of the latter have died, in that period.

During the present winter we have had extraordinary sickness, and some very severe and dangerous cases, to which these remarks are only intended to apply.

I have found that bleeding black people indiscriminately was a very doubtful remedy, and ought to be

carefully determined by the constitution and habits of the sick, much more than the general character of the disease. For example, the present influenza, which has been strongly accompanied with symptoms of a typhus character in several instances. Some slaves appear more subject than others to pneumonic and peripneumonic diseases; I have noticed that all such were seldom benefited by bleeding, especially large, horse bleeding, as some persons practice. From all such animal vampires, "good Lord deliver me." On the contrary, as the blood is really considered by many *vim habens vitalem virum*, to exhaust this essential too suddenly and imprudently, is like pulling down a man's fence when his crop is but slightly injured by March winds—a short and most effectual way to destroy the whole field. And so no doubt it hath resulted to many an unlucky and ill-fated patient. You may, therefore, infer, that we bleed very seldom in our plantation, although it is not entirely "tarified"—that is, prohibited.

As I am intimately acquainted with the constitution and habits of our slaves, the treatment of their disease is always regulated by this circumstance.—When first attacked by influenza, the symptoms of which are so familiar that it would be unnecessary to describe them, I begin with an active cathartic, composed of powdered jalap, thirty to forty grains; common saltpetre, an equal quantity. If pain in the breast, chest, or sides be felt, a large blister or mustard plaster follows, and is repeated, as it is all important to continue on the defensive until the enemy changes his position, and even then to force and hasten a speedy retreat. Mustard plasters are exceedingly useful—they are more immediate in stimulating the skin. Flaxseed tea, boiled thick, is then ordered for their diet-drink, and thirty or forty grains of saltpetre are generally added to every pint of tea, sweetened well with Georgia syrup of our own make; honey I have found much better whenever it can be obtained. Where the pulse is small and tremulous, as I have observed—skin dry—the cough frequent, hard and distressing—the following pectoral mixture is given at night: antimonial wine two parts, laudanum one part, wix well, and give one or more teaspoonfuls in flaxseed tea as before mentioned, or in Iceland-moss tea (*lichen islandicus*) which I have found highly useful. If no antimonial wine is at hand, a solution of tartar emetic, two grains to an ounce of hot water, substituted in the above proportions will be found to answer very well. Gum Arabic is also a most solid and excellent auxilliary, and will often give relief of itself: in two or three days it allays the irritation and softens the cough in the happiest manner. Having experienced the beneficial effects of gum Arabic repeatedly in my own case, I can most positively recommend and urge its greater use to others. When the lungs are oppressed and expectoration slow and hard, small doses of powdered hippo, conjoined with the syrup of squills is given in the morning. I have also found much benefit from the use of snake-root and pepper tea. With these simple remedies persevered in from day to day, we have thus far invariably effected a cure. Castor oil in small quantities is also invaluable. But mucilage: mucilage cannot be too earnestly recommended, not only in present influenza, but in fevers and all pneumonic diseases in general.

When the patient recovers so as to be able to resume his labours, if the cough continues and his lungs appear weak, I use a strong tincture of myrrh, and give from one to three or four spoonfuls in a small quantity of Iceland-moss tea per day. This is a safe and excellent remedy; will often arrest incipient consumption, and restore the lungs to a sound and healthy condition. It is in fact very far superior to some of the present remedies: prussic acid, for instance which would poison Old Nick himself, if he could be forced to swallow a sufficient quantity. I have never heard of any person surviving the continued use of

such virulent poisons, except that emissary of Satan, monsieur le Frenchman. "Those who give prussic acid forget the golden rule—"Thou shalt do unto others as we would wish them to do unto us." I am strongly suspicious they could not be persuaded themselves to make this poisonous experiment.

In making these remarks, my object is not to lay claim to any new discovery, but rather to prove, that it is best for us to adhere to the plain and simple old path which our fathers followed. For the influenza is not a new disease, it has, and will continue to appear time out of mind. If your subscribers would adopt the example, and give the result of their experience for the last ten years, in the various sections of the Southern States, especially a faithful account of all cases, and the treatment which has terminated in death, it might be a useful and important beacon by which to guide our course. The lives of our slaves are not only our all, but they are endeared to us, by many kind and active associations, and there are none of Southern birth who does not feel a lively joy and satisfaction in their comfort and happy old age. A good hospital for their accommodation when sick, is a great desideratum—many persons have already established them, and I hope they will be gradually adopted and finally seen on every well regulated and well managed plantation. The first expense would be only a trifle, compared with the comfort and advantage it would afford.

If you consider these imperfect remarks of any use, you can insert them in your useful periodical. I hope others better qualified and more experienced than I am, may be induced to communicate on the diseases and treatment of their slaves. Much valuable information might thus be obtained, and the lives of many preserved and prolonged.

On the 2d of the present month, (February,) a negro man was bit by a rattle snake with six or seven rattles, on this island. No physician attended him. The chloride of lime was sent, but if tried, it was in all probability too late. The first opportunity which I have I will make a fair trial of this most powerful agent, and communicate the result. Although the winter has been so severe, the above negro expired on Saturday, the 4th; so it is a dangerous act to meddle with these deadly reptiles at any time of the year. It might be noted, that I only saw the above case a few moments before his death.

Wishing you health and continued prosperity,
THOMAS FULLER HAZARD.

Addenda.—In the summer of 1830, our old gardener was bit by one of those large black spiders, which generally live in the ground, and are very common in the Southern States. His sufferings were most extreme and agonizing, very similar to the symptoms of a rattle snake bite. Being an aged man, and having been bit high up in the arm, (for he was wedding,) I thought it would have proved mortal, and commenced immediately with large doses of strong spirits of hartshorn—a tea spoonful in olive oil every thirty minutes, alternating, with spirits of turpentine. The arm was carefully wrapped up, and kept constantly moistened with the above mixture. Strong seneka snake-root tea was also given—for his thirst was intense. The quantity taken in the first forty hours was extraordinary; however, it finally neutralized the poison, and effected a cure. The said gardener is now alive and in good health; and you may be sure he is particularly wide awake for black spiders.

Pray invite your subscribers to communicate all such cases, and all bites of reptiles which may come under their observation, with their treatment. The chloride of lime, I think, was also used in the above case. This species of spiders are very venomous during the summer, and ought to be avoided as carefully as a rattle snake. Your useful work circulates so extensively that it is very probable that many cases of poisons must occur, and the remedies used would be a valuable acquisition to our security.

Butter.—This important article in domestic economy, is manufactured in the best manner. No water is put either in the cream or in the butter after it comes from the churn. Judge Buell considers that much of the aroma, on which the agreeable flavor of butter greatly depends, is carried off with water, particularly when warm or hot. Care is taken to have all the buttermilk thoroughly worked out, and the purest salt well incorporated with the butter. It is then put away in stone pots and covered with a little brine, in order to keep it from the air, on which the preservation of its good qualities depends in a very considerable degree, even after being made in the best manner. Butter thus made and preserved, in cutting it, neither sticks to the knife like soft wax, nor crumbles or cracks like cheese. That of last June's make is now apparently as mild and sweet as when first packed down.

Peach Pits are saved in the fall, and put away winter, in boxes mixed with earth, to keep them from getting dry and hard. Pits that have been drying all winter, will seldom sprout the first spring, unless the shell is cracked. It is customary with nurserymen to plant them without the shells. These are often sown in beds and transplanted.

Prices Current in New York, April 28.

Beeswax, yellow 18 a 20. Cotton, New Orleans .11 a .13; Upland, $\frac{3}{4}$ a .11; Alabama, $\frac{9}{16}$ a .11. Cotton Bagging, Hemp, yd. 14 a 17; Flax 13 a 14; Flax, American, 7 a 8. Flaxseed, 7 bush. clean —; rough —; Flour N. York, bbl. — a $\frac{5}{8}$; Canal, 6.25 a 6.50; Balt. Hwd-st. 5.50 a 5.65; Rhd. city mills — a 6.15; country, 5.45 a —; Alexandria, 5.45 a 5.62; Fredericksburg — a 5.51; Peters, 5.37 a —; Rye Flour, 15.50 a 15.75; Grain, Wheat, North, — a 1.17; Vir. 1.06 a 1.09; Rye, North, 76 a —; Corn, Yel. Nor. 58 a 59; Barley, .88 a .90; Oats, Sth. and North, .42 a 50; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; Potatoes, Beef, mess 8.25 a 9.25; prime 5.25 a 5.62; Pork, — a —; Lard, $\frac{7}{8}$ a $\frac{3}{4}$; Pork, mess, bbl. 12.50 a 13.25; prime 10.25 a 10.62.

THORN QUICKS FOR HEDGING.

Just received at the American Farmer Office and Seed Store, from the extensive nursery of Joshua Peirce, near Washington, D. C. 10,000 Plants of the AMERICAN HEDGING THORN. They are put up in bundles of 200. Price 5¢ per thousand.

LUCERNE AND WHITE MULBERRY SEED.

Just received from Europe a supply of Fresh Lucerne Seed of prime quality, which will be sold at market price; and also a quantity of White Italian Mulberry Seed fresh and of fine quality, at 50 cents per ounce. J. S. EASTMAN.

CARBONATE OF LIME FOR IMPROVING LAND.

The subscribers are agents for furnishing marl containing seventy-nine per cent. of carbonate of lime—it can be delivered along side of vessels, or on a wharf, or any of the navigable waters of the Chesapeake, at the rate of 10 or 12 cents per bushel.

Also a fresh supply of cow peas just received and for sale by SINCCLAIR & MOORE, May 4. Near Pratt street wharf, Baltimore.

WHITE MULBERRY SEED.

Just received, direct from Europe, at the American Farmer Office and Seed Store, a supply of White Italian Mulberry Seed, warranted genuine and fresh, at 50 cents per ounce. Orders addressed to I. I. Hitchcock will be attended to without delay.

N. B. An ounce sent by mail will be charged with quadruple letter postage for the distance sent.

GARDENER WANTED.

Wanted immediately, a good Gardener.—Such a one desirous of obtaining an eligible and permanent situation will do well to apply to the Editor of the American Farmer. May 4. 2t.

DURIHAM SHORT HORN BULL CALF.

A full blood improved Durham Short Horn Bull Calf by Gloucester, out of a first rate thorough bred Cow, four months old, well formed, of good size and points, for sale by the Editor of the American Farmer. Price, if immediately taken, \$150. Apply to I. I. Hitchcock, office of the American Farmer.

AGRICULTURAL IMPLEMENTS AND FRESH GARDEN SEEDS.

The subscriber offers at his store and manufactory, No. 36 Pratt street, between Hanover and Charles streets, a great variety of AGRICULTURAL IMPLEMENTS, consisting of his Patent Cylindrical STRAW CUTTERS; Gideon Davis' Patent PLOUGHS, with cast and wrought shares, and Castings for the same to supply those worn out; Substratum and Shovel Ploughs; Harrows; Hobbin's Patent Corn Planter; Corn Cultivators, Corn Shellers; Wheat Fans; Wire Safes, Hay and Manure Forks, by the single or dozen; Grass and Grain Scythes; Grain Cradles; Hay Rakes, Mattocs; Picks and Grubbing Hoes; Weeding and Hilling Hoes. A variety of Garden and Horticultural TOOLS, &c. &c. These articles manufactured by himself special pains have been taken to procure the best materials and to have the work executed in the best manner.

Also, a great variety of GARDEN SEEDS, both European and American, and all of last year's growth, embracing a great variety of Beans, Cabbages, Radishes, late Peas, Bene Seed, &c. &c. And the following FIELD SEEDS, viz: Tall Meadow Oat Grass; Lucerne, of Prime Quality; Mangle Wurtzel, Ruta Baga; Large Yellow Pumpkin, by the quart or bushel; and White Italian Mulberry SEED, of prime quality.

Ap. 20.

J. S. EASTMAN.

FLOWER SEEDS.

Just received a supply of fresh Flower Seeds of last year's growth, many of which are new and the most rare London varieties; 6¢ cents per paper.

Early striped Marigold, Mexican Ageratum do., Bladder Katmia, Clematis Flamula, Poppy 4 fine varieties, Scarlet Mallow, Showy Schizanthus, Wing leaved do., Clarkea Pulchella, Primrose, 4 varieties, Azure Blue Gilia, African Hibiscus, Red Ice Plant, White Cypress Vine, Larkspur, 3 sorts, Convolvulus, 4 varieties, Honesty or Satin Flower, Sweet Basil, Peony, Polyanthus, Mourning Bride or Sweet Scabius, Floss Indigo or Pheasant's Eye, Love Lies Bleeding, Prince's Feather, Globe Amaranthus, red and white, China Aster, 4 varieties, Scarlet Caccalia, Sweet Sultan, Chrysanthemum, mixt colors, Job's Tears, Morning Glory, mixt colors, Gourd, 3 sorts, Pomegranate, or Sweet Scented Melon, Variegated Euphorbia, Flowering Beans, 6 varieties, Balsam, mixt colors, Cypress vine, Sweet Peas, 8 sorts, Lupins, mixt colors, Ice Plant, Marvel of Peru, Forget-me-not, Evening Primrose, Sweet Scented Mignonette, White Egg Plant, Catch Fly, Marigold, of sorts, Devil in a Bush or Love in a Mist, Nasturtium, Heart's Ease or Pansy, Purple Candy Tuft, Fading Beauty, Golden Eternal Flower, Mock Orange, Snake Melon, Snails, Double Purple Lady Slippers, Monk's Hood, Hollyhock, mixt colors, Scarlet Snap Dragon, Columbine, Scarlet Trumpet Flower, Canterbury Bells, Bloody Wall Flower, Stock Gilliflower, mixt colors, Sweet Scented Virgin's Bower, Pink, mixt colors, Sweet William, Fox Glove, assorted, French Honeysuckle. Also, 50 other fine varieties not enumerated.—For Sale by SINCCLAIR & MOORE, Pratt street wharf.

AGENTS FOR THE AMERICAN FARMER.

The following persons are authorized to act as Agents for the American Farmer in their several places of residence:

Boston,	John B. Russell, N. E. Farmer Office.
New-York,	J. H. Gourlie, at the Post Office.
Philadelphia,	J. D. & C. Leadreth, Chestnut street.
Washington,	C. B. E. Freymuth.
Washington, D. C.	P. Thompson.
Washington, D. C.	C. Coale & Co.
Fredricksburg, Va.	Wm. F. Gray, Post Master.
Fredricksburg, Va.	Thomas Coleman.
Raleigh, N. C.	Joseph Gale & Son.
Camden, S. C.	P. Thornton, Post Master.
New Orleans,	Wm. McKean.
Newark, N. J.	James G. & Norrell.
Natchez, Miss.	Frederick Stanton.
Port Gibson, Miss.	Passmore Hoopes.
Salem, N. J.	H. H. Elwell.
General Agent for the State of Maryland,	T. B. Brennan.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—Nothing has occurred since our last worthy of particular notice, in the produce market. We have scarcely a single variation in prices to notice; Howard street flour from wagons remains as before.

TOBACCO.—Seconds as in quality 3.00 a 5.00; do. ground leaf, 5.00 a 8.00.—Crop, common, 9.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for cigars, 6.00 a 15.00; yellow and red, 6.00 a 15.00; yellow, 15.00 a 19.00.—Fine yellow, 15.00 a 22.00.—Virginia, 4.00 a —.—Happahamock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00.—The inspections of the week comprise 584 hhd. Md.; and 27 hhd. Ohio—total 611 hhd.

FLOUR—best white wheat family, \$6.75 a 7.25; super Howard-st. 5.37 a 5.50 city mills, 5.37 a 5.50 a —; Susq. 5.25 a —; CORN MEAL bbl. 3.50; WHEAT, best red wheat, 1.10 a 1.12; white do 1.13; Susq. 1.10, a 1.14 —Corn, white, 46 a 47 yellow 47 a 49; Rye, 65 a 68 —OATS, 35 a 36 —BEANS, 75 a 80 —PESAS, 65 a 70 —CLOVER-SEED 6.00 a 6.50 —TIMOTHY, 2.00 a 2.50 —ORCHARD GRASS — do — do — Tall Meadow Oat Grass 2.00 a 2.50 —Herd's, 75 a 77 —Lucerne — a 74 lb. —BARLEY, FLAXSEED 1.50 a 1.62 —COTTON, Va. 5a10c — do. 8 a 10 —Alab. 8 a 10 —Tenn. 8 a 8 — N. Car. 8 a 9 —Upland 8 a 11 —WHISKY, hhd. 1st. 2p. in hls. 29, a 30 a —Wool, Washed, Prime of Saxony Fleeces 49 a 57; American Full Blood, 40 a 45; three quarters do. 36 a 40; half do. 34 a 36; quarter and common do. 30 a 34. Unwashed, Prime or Saxony Fleeces, 30 a 34; American Full Blood, 26 a 28; three quarters do. 24 a 26; half do. 22 a 24; quarter and common, 18 a 22 —Hemp, Russia, ton, \$22 a 30; Country dew-rotted, 5½ a 6 lb. water-rotted, 7 a 9c. —Feathers, — a 87; Plaster Paris, per ton, 3.75 a 3.78; ground, 1.50 a —hbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Svs. per ton, 72.00 a 80.00.—Prime Beef on the hoof, 5.75 a 6.25 —Oak wood, 3.50 a 4.00—Hickory, 4.50 a 5.00.

CONTENTS OF THIS NUMBER.

Editorial; Cheat, Dr. Muse—Zinc War—Curious Fact in the Economy of Bees—Foreign Markets—Letter from Dr. Muse on Wheat Degenerating to Cheat—Steeping Seed Corn in Copperas Water no Security against Wire Worms, Tarring Corn Recommended as a Security against Crows, &c.—On the Advantages of Straw as a Manure, Manner of Applying it—How to Cure Mossy Lands—Planting, chapter viii; Enumeration of the Different Species of Forest Trees—Culture of the Vine in Georgia—Forcing Fruits and Vegetables; Forcing Strawberries—Mode of Making Wine in the Island of Madeira—On the Construction of Milk Houses—On Setting out Strawberry Plants—Preserving Strawberries—Remarks on the Influenza (Catarrhus a Contagione) of 1831 and '32, with a Simple Mode of Treatment—Manufacturing of Butter—Peach Pits—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, basement of Barnum's City hotel,) by I. IRVINE HITCHCOCK, on the following

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged by the year, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order, except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent to payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

Qz—All Postmasters are requested to act as agents for the Farmer; they are authorised to retain 1¢ for each new subscriber, and 10 per cent. on all other collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, MAY 11, 1832.

HEXAGONAL PLANTING—Dr. Harden, whose communication appears in the present number, appears not to have given the plan of hexagonal planting due consideration. The object, in adopting this mode, is not to crowd the hills of corn closer together, but to get the greatest number of hills on the same ground, and yet keep them the same distance apart as in the old mode. The roots of corn and most other vegetables, diverge from the centre, forming circles with their extremities; and hence it is conceived, that if we think the corn hills should stand five feet apart, by the hexagonal mode we allow them a circle of five feet diameter; by the old or quadrangular mode, a square of five feet is allowed. Now if the roots diverge, as we contend they do, the circle of five feet diameter will afford them as much room as the square; for we cannot conceive that the corners of the square can be of any use to them. We would not crowd the hills any nearer together, but whatever be the distance determined on for the hills to stand apart, let them be planted so that they will be that distance from all the hills around them. Of what use is it to allow the hill to stand five feet from one hill and seven from another, as they do when planted in squares? If seven feet is necessary one way, it is equally so the other; and it is impossible to make the distances equal in all directions by any other than the hexagonal mode. We thought the diagrams we gave of the hexagonal and quadrangular modes, sufficiently illustrated our position, and we do not see how we can render it more plain. But we will take another position. We will plant our hills by the hexagonal mode, five feet five inches apart each way, and yet have as many hills to the acre, as can be put upon it in squares at five feet apart. Again, if four feet and a half be considered the closest that it will do to plant corn in squares, we will plant at 4 feet 10½ inches, and have as many hills to the acre as it shall contain in squares at 4½ feet.

DOMESTIC BOTANY—"WILD FLOWERS."—The National Intelligencer states that Dr. Vincent M. Heuberger, who has resided in the District of Columbia during the last six months, has made a collection of more than 3,000 plants in the District and immediate neighbourhood. The editors have been favoured with a sight of a part of his beautiful collection, and express a wish that the whole could be engraved, and submitted to the public. Dr. Heuberger is about commencing a scientific excursion through the Southern States, the West India Islands and Mexico. We would suggest that the Doctor publish a list of the plants he has collected, with descriptions of such of them (if any,) as have escaped the notice of former collectors. This would be valuable to botanists, and would illustrate the botanical wealth of the District.

After all, to the people of this country, of what consequence is it that we possess a greater number of plants, more beautiful and more valuable, than any other country? Of what consequence is it to us, that from March to November, our fields and our forests are decorated with a splendour, and perfumed with a fragrance, altogether unequalled by any other country? They are all worthless, because they are "wild flowers!" Who in this country ever thinks of gathering flower plants from the woods? Our Azalas, Kalmias, Lupines, and thousands of other equally handsome plants are overlooked, trod upon, in our anxiety to obtain those of foreign countries altogether inferior to them. If you bring in from the woods a beautiful Lupine, the only mark of admiration it receives is "O it grows all over the old fields; it is very common—only a wild flower." Now this same "very common, wild flower," is almost unequalled at the season of its bloom, for beauty of flower and foliage. Its hardness

and facility of cultivation, contribute largely to its pro-scription from our gardens. Were it but a *Cape* plant, to be purchased only with a guinea, and requiring indefatigable industry and never ceasing attention in culture in a green or hot house, then would this common old field Lupine occupy a high place in public favour. These remarks apply with equal truth to thousands of other plants, and we have singled this out as the subject of them, merely because it has just received the indignity described in the "American border" department of our garden. Now we would ask in all sincerity, why is it thus? Is it good taste? or what is it that makes us think so much more highly of a thing brought from a foreign country, than of that, of at least equal value, that lies at our feet? But so it is. Plants that Europeans readily give a guinea for, are thought nothing of by us. The beautiful American Cowslip, (*Dodecatheon media*.) is scarcely noticed by the people where it grows, and yet it is sought for with avidity by every body else. Of this beautiful plant, we have in our garden, (thanks to a much esteemed friend,) a large bed, now in full and splendid flower; and though it did come from "the woods" not fifty miles hence, we esteem it the pride of our collection. For ourselves we care not where a plant comes from. The only questions we ask are—"is it beautiful in foliage or flower?—is it fragrant?" We have already collected about forty different plants from our own fields and woods, and shall continue to bring them in as fast as we find any possessing the necessary qualifications.

As we have a very extensive collection of hardy flower plants, both foreign and domestic, we intend hereafter to give a brief description of some of the most uncommon as they appear in bloom, with the mode of culture. This will enable those who may desire it, to extend their collection of flowers, and to secure a succession of bloom throughout the season.

CHEAP WASH OR PAINT.

MR. SMITH:

In answer to the inquiry of your correspondent W. in page 17, as to a white wash for fences and out-houses, I offer the following receipt:

To six gallons of hot water add three pounds of soap, three pints of oil of turpentine, (or some thing like these proportions,) and chalk or white clay enough to make a wash of the proper consistency, which apply with a common white wash brush, stirring up and mixing the articles frequently with a stick. A red paint for roofs may be made by using red clay instead of white. Every part of the country in which I reside, affords fine clays for these purposes, and I presume they are to be found every where.

The expense of painting in this way a house of one story, 20 feet square, roof and walls, with two coats, I have estimated in labour and materials, at from four to five dollars, and the paint or wash is in a good degree neat, durable, and useful. A CLAYTIE.

P. S. I shall be glad to be informed through the medium of the Farmer, what success has attended the attempts made at hedging, with the Rowand rose, and whether it succeeds in dry situations, and on land of moderate fertility. Particulars are respectfully requested.

JONNIKIN OR JOHNNY-CAKE.

MR. SMITH:

Snow-Hill, Md. April 26, 1832.

Sir,—I have been amused at many fruitless attempts (the American Farmer contains some of them) to ascertain the real name of a particular kind of bread made of the meal of Indian corn. Some call it *Johnny-cake*; others insist that it is *Journey cake*; and the late editor of the Farmer, would have it *Jenny cake*. Now, sir, be it remembered, that all these speculations are erroneous: the name of the bread is *Jonnikin*, accented upon its first syllable, and is as purely Indian as *hamae*, *wampum*, or *calumet*.

My information upon this subject, was derived from

a gentleman who died several years since at an advanced age. He was acquainted with the tribe of red-men which last emigrated from this part of Maryland,* and with that tribe he found the bread about which I write, and from them he learned its name.

The late John Leeds Bossman, Esquire, in his Introductory to the History of Maryland, would derive *Hominy* from the French word *Omelet*. I have no doubt that Mr. Webster ascribes it correctly to Indian origin; but why Mr. W. spells it *Hommony*, or why *Jonnikin* is not found in his dictionary, I am at a loss to conjecture. The meal of parched corn was, and perhaps still is, a favourite food with the Indians, and its name was a compound word—*Rocka-Hominy*. Can any one believe that the aborigines feasted upon this meal for centuries without having a name for it? or that they exchanged that name, for one compounded of an Indian and a corrupted French word? I cannot believe any such thing.

Yours,

CHINGACHGOOK.

Recipe for Mildew.—A writer in the Gardener's Magazine, (John Haycraft,) recommends the following composition for fruit trees, as a remedy against mildew. To four gallons of rain or river water add two pounds of soft soap, one pound of flour of sulphur, one pound roll tobacco, one quart fresh slaked lime, and one pint of spirits of turpentine; mix the whole together, and boil the mixture slowly for half an hour.

The writer applied this composition with a sponge, where it could be used with effect, and in all the crevices and joints used a painter's small soft sash brush. He does not say how often or at what times of the year he applied his composition.

FOREIGN MARKETS.

HAYRE, April 5.

Rice being given to the troops to improve their food, speculation has got hold of the article, which has been sold successively at 30f. 35f. 38f. 40f. 43f. 45f. and is now held at 50f. All that is known to be on the way has been sold. Nothing doing in ashes.—Flour, a little better—3000 blis. Baltimore sold at 39f. a 39f.50—duty paid. Cotton, very firm.

Another letter of the same date:—

Old and fine Upland Cotton which had lain in store three years, has sold at 100f; good new Uplands at 98f. The purchases of Rice by the government for the supply of the hospitals and the troops, have caused a sudden advance of nearly 100 per cent.

LONDON, April 5.

City 4 o'clock.—Corn averages, March 30—Imperial weekly average—wheat 59s. 9d. Aggregate average of the six weeks which regulates duty—Wheat 59s. Duty on Foreign Corn—Wheat 27s. 8d.

LIVERPOOL CORN EXCHANGE, April 6.

In any branch of the corn trade from Tuesday until to-day, there was no material alteration from our last statement, since which we have had a good supply of wheat, flour and oatmeal from Ireland, with a fair quantity of malt coastwise; but of oats the arrivals are again small, and the import from abroad consists merely of 332 qrs. wheat, with 300 bags of flour from Calcutta, and 1061 blis. flour from the United States. To-day there was a very thin attendance of buyers, and generally speaking, the trade exhibited a languid appearance.

LIVERPOOL, April 7.

Cotton.—The import this week reaches 25,142 bags, and the sales are 7990 bags, at a decline generally of 1-8d per lb. viz: 270 Sea Islands at 10½d to 13d; 3480 Boweds 6d to 73d; 600 New Orleans 6-8d to 73d; 850 Alabamas 6d to 63d; 110 Pernams 8½d to 9d; 660 Bahias 6 to 7½d; 450 Maranhams 7½d to 8½d; 70 West Indies 5½d to 7½d; 900 Egyptians 7½d to 9d; and 590 Surats and Bengals 4½d to 5½d per lb.

*More than half a century—perhaps sixty or seventy years ago.

AGRICULTURE.

HEXAGONAL MODE OF PLANTING CORN.

Nadison, Morgan Co. Georgia,
April 11, 1882. 5

MR. SMITH:

The following is extracted from the American Farmer, No. 2, Vol. 14: "Hexagonal mode of planting"—"have no doubt it will, upon a moment's reflection, be considered very far superior to the common or quadrangular mode"—"we have one-twelfth more trees or hills of corn on the ground, than in the common mode, and yet they are the same distance apart." These, as well as several other sentences on the subject, are calculated to lead planters into errors. Will you allow me room to give my reasons for saying so; and while on the subject of corn planting, to make some other observations, all of which apply to the latitude where I live. With us one great object in making corn is, to guard against the effects of droughts; to give the corn good distance is one of the most important parts of successful planting; to crowd it is, in case of a dry spell, to cause firing of the corn with great loss of the crop; to crowd the corn hills in hopes of an increase of crop, is already the too common error of young planters. This inviting temptation to crowd it still more, is calculated to cause loss in our crops of corn. To say that by planting an acre of corn in diamonds, we have every hill of corn the same distance apart, and yet one-twelfth more hills than the same acre would have planted in squares, is certainly a strong temptation to a young planter, to plant his crop in diamonds, expecting thereby to have one-twelfth more corn; but when we think on it, is not this a contradiction so flat as to contradict itself. The object is to give each corn hill a certain surface of ground for its own use; when a field is laid off in squares five foot each way, every corn hill has a square of 24 feet for its own roots; by approximating two hills and extending the other two hills as far as possible, we would have all the hills touching one way, and five foot apart the other way. Certainly a field in this situation could not be said to have all the hills the same distance apart as one in squares. These are the two extremes; the more we bring it to the form of squares the greater surface of ground we give to each corn hill, and the greater distance we put all the hills apart. Make a calculation of this, and I think you will be satisfied that in squares the hills are furthest apart, and the surface of ground for each hill is greatest; the more we give it a diamond form, the nearer the whole number of hills are brought together, and the less surface of ground each corn hill has. Your assertion, that they are all the same distance apart, cannot be correct. If a planter was in the habit of giving his corn five foot distance in squares, and this was as near as the corn hills should be, and you persuade him to give it five foot distance in diamonds, you would make him give each corn hill one-twelfth less of surface, or in reality to bring the whole number of hills one-twelfth nearer, and in case of droughts he would lose by it. What the proper distance of corn hills should be, would perhaps be difficult to determine; no certain distance would apply in all cases. My own crop is always planted in squares, five foot each way, two stalks to the hill. Experience, I think, proves this to be the best distance we can give corn, to have a sufficient number of stalks to the acre, and yet stand the effects of drought. It has several other advantages; a hand can cultivate more ground this distance than any other; five furrows with our shovel ploughs exactly fill the row; the last furrow splits the middle ridge and lays it open handsomely; when the hills are four feet apart, four furrows will not be quite sufficient; a ridge is left in the middle—to plough the row well will take five furrows, so that one-fifth more ploughing is required—we will have near nine hundred more hills to plant, cover, thin, and hoe to each acre, which is a larger increase of labour, with near nine hundred less of corn stalks; the fodder is saved with more difficulty

and less certainty. But it is contended by many, that by planting four foot, one stalk to the hill, every stalk is more apt to have two ears. It is true that where there is only one stalk to the hill, the ears show more conspicuously than where there are two stalks; so will a field of topped corn show much better than one that is not topped, although the corn is no better; but I have proven by actual experiment, that five foot two stalks will produce a greater number of ears and more corn, than ground of the same quality will four foot with one stalk.

Drilled corn with me has always turned out very poorly, never having taken the trouble to measure the distance it should be in the drill, and negroes being always disposed to have all crops too thick, however often the order to thin the corn well has been repeated, my drilled corn has always been left so thick as to suffer material loss.

Another subject of dispute with some persons is, whether a hill side has more corn hills than a level surface. It is true, if we run a fence of post and paling across a valley, it will require exactly the same quantity of paling a level fence would require from one point to the other; not so with corn hills—we do not measure horizontally, the measuring tick is laid on the ground; the corn hills are five feet apart, but the stalks are much nearer. A neighbour of mine once contended with me, that a hill side would stand dry weather better, and out produce level land; we agreed to make a bet on it; we were both to plant unmanured second year ground, in hills five feet apart, two stalks to the hill; he was to take one acre of the best broken land he had, I one acre of the best level land I had, (low grounds excepted) the winner to take the produce of both acres of corn, and his choice of the best ten acres of cotton in the loser's crop. But two difficulties occurred which we could not agree upon, and the bet was not made. First, he was in the habit of planting his whole crop in diamonds, and contended that a hill side could be ploughed to better advantage planted in that form, and as the hills of corn would be five foot apart, he would be justified to plant his acre in that way. I contended he would have one-tenth more corn hills, and that the corn hills would be one-tenth nearer; second, he contended that his acre should be surveyed flat, or horizontally, and that it would require the same quantity of paling to fence it if thus surveyed as a level acre; I insisted his hill was sufficiently steep to give, by a flat survey, one-fifth or sixth more surface, and to make a fair bet it should be surveyed with the surface. Experience has since convinced me I would have lost on my own terms. A hill side while it lasts stands the effect of drought better, and does out produce level land. With respect to the two points of contention, it appears both would have been decided against me; but I still think I was correct. A case was, I think, decided in one of our courts, that the number of acres in a tract of land must be determined by a flat survey; and the American Farmer says a field laid off in diamonds, has the hills the same distance apart as one in squares.

Respecting the number of ears to the stalk, I do not think it a matter of any consequence whether the hills have one or two stalks. The following experience I think throws some light upon it. It was my custom to plant my corn crop very forward, and it was always bit down with frosts; after the cotton crop was planted, the cotton rows were crossed every twelve foot, and a grain of corn planted at every cross; when the crop was gathered premiums were given to the hands who could find the most and largest ears of corn. These were always found in the late corn and were saved for seed. While I kept up this custom, I had tall stalks, large ears, and good crops. One year I directed the hands to go over the corn and gather all the seed corn from double eared stalks; now it was found that the forward planted first nipped corn afforded the most double ears; from these double ears my whole crop was planted the next year; the difference was very perceptible; the stalks of the whole crop were

smaller and lower, and the number of double eared stock very great. I was much pleased with the experiment, but sadly was I disappointed when my crop was gathered—I made scarcely a half crop. Formerly in gathering 4 or 5000 bushels of corn, I did not have a small cart load of rotten corn, and my corn did not require any assorting; there was little or no short corn and the ears were very large. Now I had no very large ears; I had a crib full of short corn, and large piles of rotten corn; this corn I have continued to plant, and my corn has continued to depreciate in size, quality, and quantity. Now from this experiment, as well as the known facts noticed by almost every corn planter, that although very forward corn that has been bit by frost, generally makes a good turn out, because it is most apt to hit the season, yet when the season holds out to hit the later corn also, it never grows as tall or as large, never has as large ears, but generally more double ears, more short corn, and much more rotten corn. I infer that this double eared corn is a depreciated dwarfish kind, which may answer at the north, where the land will bear crowding, but with us where it matters not how rich we make the land, it will not bear crowding. If a heavy crop is desired, give the corn good distance, select the seed from corn that has never been injured by frost, from the largest ears, and aim rather at few but large heavy ears, than many smaller and lighter ears. Upon a rough guess I would say this plan of planting for three years would increase the number of double eared stalks full one-third, diminish the average weight of the whole number of ears one-half, and increase the quantity of rotten corn tenfold. I shall this year return to my old plan of planting, and if I can again improve my corn as fast as I have injured it, will be satisfied.

It is a very common opinion that deep covered corn will be out of the ground as soon as corn that is planted shallow, and that it will stand a drought better. These are erroneous opinions. I planted some corn on the 10th, some on the 15th, and some on the 20th last month. That on the 10th is covered deep, the other two shallow. This 7th April, that on the 10th and 20th are about alike; that on the 15th is up much better than either, (two rows had a tea spoonful of salt on each hill after they were covered; these are up the best, and the corn is largest.) Having often examined the state of these corn hills, I think the deep corn was about five days later in sprouting than the shallow; so that the corn planted on the 10th and 15th, sprouted (in the ground) at or near the same time; that on the 10th and 20th are now about the same—this shows that by deep covering, I lost 5 days in sprouting, and 5 days in getting out of the ground after it was sprouted; the deep corn is about one inch deeper than the shallow, so that I lost 10 days by covering one inch too deep. It should however be noted that the weather was very cold when the first corn was planted, which probably retarded its sprouting; but as that on the 10th and 15th sprouted nearly the same time, and that on 10th and 20th were up at the same time, and that on the 15th five days sooner than either, then that on the 10th must have required five days after it was sprouted, to make up for the time it lost by covering one inch too deep; but it is argued that although it may require longer to get out of the ground, yet it is stronger and will make up for lost time; but when we accurately examine the sprouting and growth of a grain of corn, we will be satisfied this is not so. When a grain of corn is planted, the sprout comes out first; and then two bunches of roots, one running in the direction of the large, and one in the direction of the small end of the grain. From these roots, as well as the nourishment in the grain itself, the plant receives its support; and it has no other roots until it is 12 inches above the surface of the ground, then one inch below the surface, a circle of horizontal roots strikes off, as soon as those roots acquire sufficient size to support the plant, all below them decays. Upon taking up a great many of these plants and examining, the following is a tolerably cor-

rect average. Those on the 10th and 20th are 11 inches above the surface; those on the 15th are one inch and three-quarters above the surface; those on the 10th and 20th, just begin to show the formation of the circles of horizontal roots, one inch below the surface; those on the 15th have these roots about 1 inch long; half an inch from this circle of roots is the grain of corn of these on the 15th and 20th, but those on the 10th it is one and half inch from those roots to the grain. Now, from this statement we find the age of the plant is not to be calculated from the time the corn sprouts, but from the time the circle of roots an inch below the surface, begins to grow; all above them is the plant which is to make corn; all below them decays; the corn on the 10th and 15th sprouting at the same time, and that on the 10th and 20th being out of the ground at the same time, shows five days was lost in the growth of this inch between the circle of roots and the grain, as that on the 15th is half an inch taller than either. Then I think one inch and half being the proper depth to cover corn; when we cover it deeper that time is lost in the growth of a part that is to die; the age of the plant itself, from my experiment, it seems by covering one inch deeper loses five days in the age of the plant; these five days in our climate, where the forward corn is very commonly made before the dry season sets in, would make a great difference in the turn out of a large crop. As all below these roots one inch below the surface decays, it proves no matter what depth the corn is planted, the roots that nourish the plants are one inch deep; all the other roots are an after growth; and its power to stand the effects of drought, is the same, planted at any depth.

These observations cannot be considered as exactly accurate, but they are as near accurate as an average could make them.

Since this was written, I observe J. B. F. writes in the Farmer as follows:—"My design in laying off the corn hills (hexagonally) was to introduce a freer circulation of air between the rows, than could be obtained by any other means. Besides this, the sun could get more readily to the corn when growing." I cannot conceive by what calculation such an opinion was formed, the rows are nearer, the hills closer, and the corn thicker than in squares, and in squares the air can circulate in every direction as free and a little freer.

Vale,

ROBERT R. HARDEN.

CHESS OR CHEAT.

Lucky Hit Farm, Frederick Co. Va.)
April 22, 1832. }

MR. SMITH:

Dear Sir,—I know not whether you will permit the following article to mingle in your learned controversy on this celebrated (unknown) at least illy understood subject amongst the generality of us farmers—but certain it is, should you favour its humble pretensions, that no light is promised to be thrown upon it, save indirectly in promoting a discussion which appears to carry with it so much mystery.—My aim is to excite all the powers of mind and research which may be advantageously brought to bear on so interesting a subject, and elicit communications which are deemed stern facts by many of the most intelligent and reputable farmers in our country.—The American Farmer has always been entitled to a serious and liberal claim on the talents of our citizens, especially of the agriculturists—they may be congratulated on the increasing probability of the Farmer's being made the arena of much learned discussion, useful and interesting controversy on the productions of the earth, animate or inanimate, vegetable or animal, through the communication of facts entirely essential to the useful application of learned commentaries. It is of no little additional consequence to believe, that however exciting may be the future discussions in the Farmer, they will be conducted with calmness, and politeness, and the greatest con-

sideration, for the prejudices and want of information in the many, with a single eye to the association of scientific acquirements, with apparent and practical facts.

This particular subject, always interesting, has latterly become more so, in its response by gentlemen of distinguished acquirements, in science and philosophy, if I may be allowed to make such discrimination with any propriety—those who defend the generally received opinions of us practical farmers on the ground of apparent facts and probabilities, &c., &c.; and those who will not surrender the least particle of their philosophy, based on botanical research, and the uniform operations of nature.

When such combatants as your New York and Maryland correspondents, with their coadjutors, come into contact—Greek meeting Greek, then may we indeed expect the tug of war—a war, neither of hatred, malice, bloodshed, nor extermination; but purely for the elevation of truth and correct principles, in the critical examination of some of the supposed mysteries of vegetable creation, and the general prosperity of science.—In your last Farmer, I observe, in a quotation by your New York correspondent, that I am made an enemy to his doctrines, whether or no. If he will be so good as to examine, he will find, I am not so fortunate as to have the merit of committing myself on either side. Some eight or ten years since a transient belief was entertained, that I was about to prove the fact of transmutation on a field of 20 or 30 acres of wheat, but from the closest investigation afterwards, it was clearly ascertained to my perfect satisfaction, that the cheat and wheat stalks were in every instance perfectly independent of each other—sometimes the wheat stems much injured by the fly, were so closely united with the cheat stems as to deceive a superficial examiner. The wheat was sown in early fall, on a clover and blue grass fallow, and looked well for a time, but the fly injured it much before the winter—in the spring it assumed again a very promising appearance, and progressed with as much verdure and thrift as could be expected, a deeper green I think I recollect than usual. Just before the heading time, most unexpectedly, it almost all turned to cheat (as the saying is.) I then recollected that when the field was in pasture have seen a very thick, diminutive growth, (which I have no doubt was cheat) exceedingly degenerate in its appearance no doubt, having to contend with clover and a sod, and probably also from the circumstance of its vegetating far from the surface.—My conclusion then was, that the fly having destroyed the wheat, left room for a vigorous growth of the cheat, which had the advantage of the same cultivation of the wheat, and most probably produced by seed which had been deposited even prior to the ploughing for the above mentioned wheat crop. On the other hand, I will again say, that the case of the timothy meadow, carries with it an unaccountable mystery—the fly has never been known to destroy a field of timothy, root and branch—and would it not be strange, that a firm and luxuriant timothy sod should yield to freshly vegetated seed of any description; and remain quiescent under an uncommonly luxuriant growth of cheat—for I well remember being astonished at the fact, witnessed with my own eyes, and I regret not having noted the exact period, and how long it was before the usual time of timothy's heading. I have never yet witnessed, what would be a sufficient evidence to me, that wheat, rye, barley, oats, &c., can be turned to cheat—neither am I philosopher enough to deny the possibility of the transmutation. For information, I would ask of those who are most knowing in these changes, whether the same appearance attends the cheat of the different varieties of grain and grasses? But after all, what will be the practical effect of the permanent decision of this long disputed question—if grains and grasses are really subjected to the casualty of transmutation, will farmers in consequence abstain from their usual modes of grazing at all times and seasons? If on the

contrary it can be proved to be a thing entirely inconsistent with truth and the order of things, will they derive new advantages by adding to their former habits of promiscuous grazing? If it is contended by the votaries of one opinion that the grazing of wheat, rye, &c., will sometimes change it into an inferior plant, under peculiar circumstances, and at particular seasons, and stages of vegetation, times of the moon, &c. &c.—it may be by others proved, that numberless fields of grain of different kinds have been grazed at all seasons, without injury to the crop in any way, or the introduction of any evil whatever. Some years since, there were two kinds of wheat introduced into Frederick Co., Va., through the enterprise of W. M. Barton, esq., of lamented memory—one the white flint, the other a very dark looking wheat, stated in the Farmer, to the best of my recollection, to have been brought to its then perfection by repeated reproduction, having originally been taken from a meadow, and then having more the appearance of cheat than any thing else. I will not trouble you with the various evidences our farmers have against this cheating plague—let them speak for themselves, first, well examining before they waste their ink in making a report. Very respectfully, yours, &c.

R. K. MEADE.

P. S.—I remember reading some years since, in a learned essay in the Farmer, some suggestions that weeds, &c. could be produced where no seed were in the earth. Can a fair experiment be made to test the truth of them by exhausting a piece of ground of its seed, by a succession of spading at different depths, and carefully pulling up the vegetation as fast as it appears? Let it be recollected that much error creeps in by an unfaithful and unpunctual attention to experiments when they are attempted. However much more important some are than others, there are none that will not contribute in their success, more or less, to an enlargement of the mind, or the comfort of the body.

(From the Genesee Farmer.)

PLASTER—GYPSUM.—(Sulphate of Lime.)

This substance is found in a great variety of forms. When found in regular crystals, it is sometimes called *selenite*. It is not infrequently found in large transparent crystalline plates and masses, and sometimes occurs in fascicular or radiated masses which are also crystallized. It is also found in snow-white scaly flakes like snow or foam, and is sometimes semi-transparent like horn; but is most commonly met with in large masses forming rocks, and constituting large and extensive strata, which form all the beds and hills of this mineral which are so frequent among secondary rocks. It rarely occurs among the primitive and transition rocks. The purer semi-transparent specimens are used for vases, urns, &c., and for statuary, and is known by the name of alabaster; but the most important and extensive use of gypsum or plaster, is as a manure; hence it becomes an interesting object of inquiry to every agriculturist. Nature has bestowed upon us a plentiful supply of it, and it needs but the skill and ingenuity of man to convert it to his use, and render it one of her kindest gifts.

The true theory of the operation of this salt as a manure, has never been satisfactorily given, but could it be, it would doubtless prove of much importance, as what is now left to empirical practice, might be directed by the application of scientific principles.

A common opinion that the beneficial effect of plaster is produced by the attraction of water, is, I think, erroneous, for this salt has very little attraction for water.

Col. Taylor, of Port Royal, in his reply to queries on plaster of Paris, propounded by Mr. Jeffreys, says: "It succeeds upon all soils to which I have applied it, those requiring to be drained excepted.

"Sown on clover in the spring, it benefits it considerably. Used in any other mode, I plough it in.—

But I even discontinued the first practice, from observing, that when plaster is sown and ploughed in with wheat in the fall, a top dressing to the subsequent clover is of little or no use; and from thinking that the effect of plaster sooner ceases as a top dressing than when ploughed in. The best ways, I think, of using it, are in the spring, upon the long manure of the preceding winter, to be ploughed in with it—upon well covered fields to be sown immediately before they are followed—in rolling it very wet with seed corn bushel to bushel, and in mixing it with seed wheat so moist as to let the wheat divide in sowing, in such a quantity as that the land shall receive not less than three pecks to an acre. The latter is chiefly for the sake of the succeeding clover. The wheat is benefited in a very small degree, but it prevents cmbezement of the seed.

"I have had a small mill exclusively for grinding plaster during twenty years. In that period I have used several hundred tons, and tried a great variety of experiments, using it every year to considerable extent. I think it a valuable ally, of, but by no means a substitute for manure. That there should be intervals of two, three or four years between applying it broadcast to the same land. That its effect is graduated by the quantity of vegetable matter upon which it is sown. That upon close, grazed land, it does but little good at first, and repeated would become pernicious; and that it must be united either with the long manure of the winter, or the ungrazed vegetable cover produced in summer.

"I have satisfied myself that plaster ought to be used to benefit all kinds of grasses in the modes explained, and that it ought not to be sown as a top dressing. * * * * *

"It is impossible to say how far the plaster, valued exclusively of its vegetable ally, may have increased the crops of grain. Used as a top dressing to clover (red) on land never before plastered, I have often had that grass increased four fold to a line dividing it from similar land and clover. Spaces left unplastered across large fields, when sown in wheat, have remained visible during the whole season of rest, by the inferiority in luxuriance of a great variety of natural grasses and weeds."—*Mem. of the Board of Agr. of the State of N. Y. v. 2, p. 377.*

W. P. W. says:—"I planted with Indian corn a field which contained about five acres. The seed was all wet with soft soap and rolled in plaster, except a few rows through the middle of the field, which was planted dry. Both kinds were treated alike, and occupied the same kind of soil, (sandy loam,) and the whole field had a gentle declination to the sun. The difference between the two kinds was very great. That which was prepared with soap and plaster was a fair crop; that which was planted dry did not yield at the rate of three bushels to the acre—stalks in proportion."—*Gen. Farmer, Vol. 2, page 68.*

In Cooper's edition of Thomson's Chemistry, I find the following note:—"It [gypsum] acts as a stimulant, not as a pabulum. It excites the living fibres of the plant to stronger action, so that the plant takes up and digests more nutriment. It acts also as a septic to dead vegetable matter."—*C. Vol. 2, page 354.*

Having now furnished myself with all the data that I can obtain, will proceed. The experiments of Col. Taylor go far to prove the assertions of Cooper, and that its beneficial effects are in promoting the decomposition of substances, and prepare them for the necessary food for plants, and to stimulate the living fibres of the plant to take up and digest the food prepared for it, and that the plaster itself does not serve as the actual food of the plant.

If Cooper's theory be true, it follows that the repeated application of plaster to some lands without other manure, would prove, not only useless, but would even impoverish the soil by converting all the nutritious matter contained in it into food for plants, which would be taken up by them and leave the soil

in a degree destitute of nourishment. The conclusions to be drawn from the extracts above, are so plain, that further comment is unnecessary.

My experience tells me that Col. Taylor, in the last paragraph quoted from his letter, and W. P. W. have drawn wrong conclusions from their experiments (which are quite similar,) and have overrated, in those particular cases, the just value of plaster.

Strange as it may appear, plaster not only exerts a beneficial influence where it is immediately applied, but acts detrimentally to a certain extent around the borders of its application where it has not been applied to the distance of two or three rods. So says my experience and observation. I have sown plaster on a meadow adjoining a pasture, and for the width of a few rods next to the meadow, the pasture was very sensibly effected, and was comparatively barren.

I have also tried it in other situations where half of a meadow was plastered, the other half not, and the effect was the same. Now I infer from this, that the "spaces left unplastered" by Col. Taylor, and the rows of corn by W. P. W. were inferior to what they would have been had they not been subjected to the influence of the plaster upon the other parts.—Much remains to be learned upon this subject. Nature delights in her freaks, and often throws a veil of mystery over her simplest operations. YTS.

P. S. Ulmus highly recommends the elm as an ornamental shade tree, [Gen. Farmer, Vol. 2, p. 62.] Will he please inform us what particular species he has reference to. Also, what is the most favourable month for transplanting maples.

HORTICULTURE.

(From the Library of Useful Knowledge.)

PLANTING.

CHAPTER VIII.

Enumeration of the different species of Forest Trees.

(Continued from page 62.)

ACERINÆ.—*Nat. Sys.*

Polygamia Monœcia. Linn.

Eng. Name.	Bot. Name.
MAPLE-TREE.	ACER.

Calyz, five cleft; *corolla*, five-petaled; *germs*, two or three superior; *style*, simple; *seed*, single, roundish shaped, its capsule terminated by a wing-like membrane.

Time of sowing—as soon as possible after the seeds are ripe: some are of opinion that the seed should be preserved in dry sand until February or the beginning of March. *Soil*—This genus will thrive in coarse land, but the European species attains the greatest size in a deep, moist soil, free of stagnant moisture; those which are natives of America require a drier soil than the above.

Uses—The wood of the common maple or sycamore is considered superior to that of the beech, for the uses of the turner, in making domestic utensils, and also for the uses of the joiner for inlaying.—It is sometimes also used by musical instrument-makers; but it is chiefly valued for its property of quick growth as coppice or underwood.

Timber or Forest Species.

Polygamia Monœcia. Linn.

MAPLE-TREE.	ACER.	Native of	Ft.
Common	<i>campestre</i>	Britain	35
Italian	<i>opalus</i>	Italy	50
Norway	<i>platanoides</i>	Europe	50
Sycamore	<i>pseudo-platanus</i>	Britain	50
(In Scotland, Plane-tree.)			
Sugar	<i>saccharinum</i>	N. Amer.	40—70

Species for Ornament, Shelter, or Underwood.

Striped-leaved, or <i>pseudo-platanus</i>	variegated, <i>variegatum</i>	Britain
Blunt-leaved	<i>obtusum</i>	—
Sir C. Wager's	<i>dasyacarpum</i>	N. Amer.

Bastard	<i>hybridum</i>	Hybrid
Cut-leaved	<i>platanoïdes</i>	Europe
Mountain	<i>montanum</i>	N. Amer.
Ash-leaved	<i>negundo</i>	— 30—40
	<i>fraxinifolium</i>	—
Scarlet-leaved	<i>rubrum</i>	—
Tartarian	<i>tartaricum</i>	Tartary
Montpelier	<i>monspessulanum</i>	France
Oblong-leaved	<i>oblongum</i>	Nepaul
Striped barked	<i>striatum</i>	N. Amer.
Opalus-leaved	<i>opalisilim</i>	S. Europe
Hungarian	<i>obtusum</i>	Hungary
Creten	<i>creticum</i>	Levant
Evergreen	<i>heterophyllum</i>	—
Bearded	<i>barbatum</i>	N. Amer.
Black Sugar	<i>nigrum</i>	—
Palmate	<i>palmatum</i>	China
Large-leaved	<i>macrophyllum</i>	Columbia
Iberian	<i>ibericum</i>	Iberia
Round-leaved	<i>circinatum</i>	Columbia

HIPPOCASTANÆ.—*Nat. Sys.*

Eng. Name. Bot. Name.

HORSE-CHESTNUT. *ÆSCULUS.*

Heptandria Monogynia. Linn.

Calyz, one-leaved, five toothed, ventricose; *corolla*, five-petaled, irregularly-colored, inserted into the *calyz*; *capsule*, three-celled; *seeds* two, sub-globular, enclosed in a roundish shaped capsule, containing three cells, and opening with three valves to emit the seeds.

The seeds should be preserved in dry sand until spring, and sown early in that season; but should the soil be dry, and free from the attacks of vermin, it is advantageous to sow as soon as the seeds are ripe.—*Soil*—The horse-chestnut grows to the largest size in a sandy loam, but will grow in almost any kind of soil.

Uses—for fuel; but chiefly planted for the beauty of its flowers and its habit of growth. The common horse-chestnut, though a native of the northern parts of Asia, is never injured by cold in Britain, into which it was introduced about 1689, or, according to some, in 1683. It is sufficiently known for the beauty of its form when in full foliage and in flower, particularly when planted singly or in rounded groups, in lawns, and parks. For avenues it is less desirable, or where it overshadows roads, as the leaves fall early in the autumn. The species enumerated below, natives of North America, are all more or less ornamental, and deserving of a station in the margins of forest plantations. The comparative value of their timber has not yet been proved.

Timber or Forest Species.

HORSE-CHESTNUT.	ÆSCULUS.
Common	<i>hippocastanum</i> Asia 40

Species for Ornament, &c.

HORSE-CHESTNUT.	ÆSCULUS.	Native of	Ft.
Golden-striped	<i>hippocastanum, fol. aur.</i>	—	—
Silver-striped	—, <i>f. d. arg.</i>	—	—
Double-flowered	<i>flor. pleno</i>	—	—
Flesh-coloured	<i>cornea</i>	—	—
Ohio	<i>ohioensis</i>	N. Amer.	—

Eng. Name.	Bot. Name.	
BUCK'S EYE TREE	<i>pallida</i>	PAVIA.
Pale-flowered	<i>glabra</i>	N. Amer.
Smooth-leaved	<i>macrostachya</i>	—
Long-spiked	<i>hybrida</i>	—
Variegated-flowered	<i>discolor</i>	—
Dwarf	<i>neglecta</i>	—
Neglected	<i>rubra</i>	—
Red-flowered	<i>flava</i>	10—8
Yellow-flowered		40

RHAMNACEÆ.—*Nat. Sys.*

CHRIST'S-THORN. *ZIZYPHUS.*

Pentandria Monogynia. Linn.
Calyz, tubular; the scales of the *corolla* are inserted

in the calyx, and support the stamina. Seed, a two-celled nut, covered by a berry.

Time of sowing seeds—Autumn, in pots. *Soil*—Sandy loam. *Uses*—Chiefly planted for the singularity of its spines or thorns.

Species for Ornament, &c.

Common *palmaris*. S. Europe. Introduced in 1640.

HOLL.

LEX.

Tetardia Tetragynia. Linn.

Calyx, four-toothed; *corolla*, wheel shaped; *style*, wanting; *seeds*, four, solitary, horny, oblong, rounded on one side, cornered on the other, enclosed in a roundish four-celled berry.

Time of sowing—The berries should be placed under ground in a pot or large tub for one year, and then sown in the autumn upon a bed of sandy loam.—*Soil*—The holly flourishes best in a dry, sandy soil, but will grow on land of almost any description.—*Uses*—for the purposes of the turner, the inlayer, mill-right, and engineer. The tree is in great esteem for the ornament of its evergreen foliage. Bird-line is manufactured from its bark. The common holly, besides being a native of England, is also found wild in many parts of Europe, Japan, Cochinchina, North America, &c. As an evergreen fence it is superior to every other plant. It bears clipping well, and is never injured by the severest frost. When reared to the height of two feet, by transplanting from the seed bed to a rich sandy soil, the plants may be removed, and planted as a hedge with perfect safety on well trenched and manured ground; this removes the only objection to the holly for fences, which is its slow growth. We have moved plants four feet in height successfully, and thus made a comparatively impenetrable live-fence the first season.

The *Carolina* or *American Holly*, attains to a great height in its native soil. Its wood is held in great estimation, but in this respect it is not considered superior to that of our native species.

Species for Ornament, &c.

HOLL.

LEX.

Common *aquifolium* Brit. 20—30
 Var. Various-lyd. *heterophylla* —
 „ Thick-leaved *crassifolia* —
 „ Hedgehog *ficosa* —
 „ Striped-do. *echinata* —
 „ Yellow-berried *flava* —
 „ White margined *alba marginata* —
 „ Gold-edged *aurca marginata* —
 „ Painted *media picta* —
 „ Spineless *senescens* —
 „ Milk maid *lactaria* —
 „ Carolina *opaca* N. Amer. 30

JUGLANDEÆ. Nat. Sys.

Monœcia Polyandria. Linn.

Eng. Name.

Bot. Name.

WALNUT-TREE

JUGLANS.

MALE FLOWER—ament or catkin, imbricated—*calyx*, scaly; *corolla*, six-parted; *filaments*, many, seven or more. *FEMALE FLOWER*—*calyx*, of four divisions, superior; *corolla*, with four divisions, *styles*, two; *seed*, a nut with four divisions, marked by intervening membranes, substance of the seed grooved—it is covered by a corticated, dry, oval-shaped, two-valved drupe.

Time of sowing—Preserve the nuts until February in their outer covering, after which they may be sown. *Soil*—A rich loamy soil is that in which the walnut attains the largest size, but it will succeed in very light, siliceous, sandy soils, as well as in clayey ones. *Uses*—The wood of the walnut is highly valued for many purposes, such as gun-stocks, domestic utensils, fire-ware, wainscoting, &c. Among the American Walnuts, the black *Juglans nigra*, is considered to have wood of a more valuable quality than the com-

mon walnut, but this latter has a decided superiority in the excellence of its fruit and properties of its oil. The black walnut is considered to be one of the largest trees of America. On the banks of the Ohio, and on the islands of that river, Michaux states that he has found them from sixty to seventy feet in height and four feet in diameter, and that it is not rare to find them six or seven feet. Of the *Hicories*, the *Pignut*, or *Carya porcina*, is perhaps the most valuable, not for its fruit, but for its wood, being comparatively the best. The comparative value of these trees has not yet been proved in England—hitherto they have been looked upon as merely ornamental park trees, or subjects for botanical investigation. Some of them, however, rank among the largest trees in North America, where, according to Michaux, the general opinion there formed of the wood of the different species cut out from the natural forests is, that it is of great weight, strength, and tenacity, but liable to a speedy decay when exposed to damp, heat, and to worms.

Forest or Timber Species.

Filaments of the female flower many.

WALNUT-TREE.	JUGLANS.	Native of	Ft.
Common	<i>régia</i>	Persia	50
Var. Dble-fruited	<i>reg. máxima</i>	—	—
„ Late-fruited	<i>reg. serotina</i>	—	30
Black	<i>nigra</i>	N. Amer.	—
Shell-bark	<i>cinerea</i>	—	—
Ash-leaved	<i>fraxinifolia</i>	—	—
Winged-fruited	<i>ptercocarpa</i>	Caucasus	—
Hicory-nut	<i>carya</i>	—	4 to 6
Filaments of the female flower			
White Hickory, or	<i>alba</i>	—	—
Shagbark	—	—	—
Olive-fruited or Pe-	<i>olivæformis</i>	—	60
cannut	—	—	—
Flat-fruited	<i>compressa</i>	—	—
Smooth-leaved	<i>glabra</i>	—	—
Narrowed leaved	<i>angustifolia</i>	—	—
Bitter nut	<i>amara</i>	—	70 to 80
Pig nut	<i>porcina</i>	—	—

CONNARACEÆ. Nat. Sys.

Polygamia Monœcia. Linn.

Eng. Name. Bot. Name.

TREE OF HEAVEN.

AILANTHUS.

MALE FLOWER—*calyx*, one-leaved, five-parted, very small; *corolla*, five petals, acute, convolute at the base; *stamina*, filaments ten, compressed, the length of the corolla.

FEMALE FLOWER—*calyx*, as in the male; *corolla*, as in the male; *pistil*, germ 3—5; *styles* lateral; *capsules*, compressed; *seeds*, solitary; lens-shaped. Bisexual flowers as in the above.

Tall Ailanthus, or	Native of	Ft.
Tree of Heaven.	<i>glandulosus</i> .	China 50

Though a native of China this tree bears our winters without injury. It grows fast, and attains to a great height; there are many trees of this kind in England from thirty to forty feet and more in height. It is a handsome tree, and the wood is said to be hard, heavy, and glossy, like satin, and susceptible of the finest polish. It is well worthy the attention of those who have it in their power to benefit themselves and the nation, by determining the comparative value of the different species of forest-trees. Some remarkable fine specimens of this and of comparatively rare American forest-trees, are in the grounds of the Duke of Northumberland at Syon.

Time of sowing the seeds—As soon as they are received from abroad in boxes of light earth, or sand and peat, protected under glasses.

LEGUMINOSÆ. Nat. Sys.

GLEDITSCHIA, or *SWEET LOCUST*.

BISexual FLOWER—*calyx*, four-cleft; *corolla*, four

petaled; *stamina*, six; *pistil*, one. *MALE FLOWER*—*calyx*, three-petaled; *stamina*, six. *FEMALE FLOWER*—*calyx*, five leaved; *corolla*, five-petaled; *pistil*, one.

Seeds, solitary, roundish, hard, shining, enclosed in a legume or pod, which is broad, much flattened, and divided by several transverse partitions.

Time of sowing the seed—Seeds procured from America, sow half an inch deep; they frequently remain two years in the ground before they vegetate. *Soil*—A sandy loam. *Uses*—This plant is valued for the beauty of its habit of growth. If planted in exposed situations, the branches are apt to be broken by the winds.

Polygamia Diœcia. Linn.

SWEET LOCUST.	GLEDITSCHIA.	Native of	Ft.
Thorned acacia	<i>tricianthus</i>	N. A.	40 to 60
Var. Spineless	<i>inermis</i>	—	30 to 40
Single-seeded, or water acacia	<i>monosperma</i>	—	—
Strong-spined acacia	<i>hirsuta</i>	China	—

(*Subordo, Papilionaceæ*). Nat. Sys.

Eng. Name. Bot. Name.

SOPHORA. SOPHORA.

Decandria Monogamia. Linn.

Calyx, four-toothed; *corolla*, pea-flowered; *seed*, pot, long, slender, one-celled, numerous, forming prominent knobs on the surface of the pod.

Time of sowing seed—as soon as it can be procured; sow in pots filled with light earth. Plant in a sandy loam, and in a sheltered situation. *Use*—Valued for its handsome foliage and habit of growth.

SOPHORA. SOPHORA.

Japanese sophora *japonica* Japan 40
 The wood of this tree, when fresh cut, emits an odour offensive to insects. In England we have seen it attain to upwards of 20 feet in height, with a proportionate diameter. Its pinnated leaves, which are smooth and of a beautiful green, give to the tree a graceful appearance. It is a native of Japan, and was introduced into England in 1753.

FURZE, WHIN, GOSÉ.

ULEX.

Monadelphica Decandria. Linn.

Calyx, of two ovate-oblong concave leaves, rather shorter than the keel; the upper with two small teeth, the lower with three; *corolla*, of five petals; standard, ovate-cloven; wings, oblong, rather shorter than the standard; keel, of two petals, straight, obtuse, cohering by their lower edges; filaments, in two sets, both united at the base; *anthers*, roundish, of two lobes; *germen*, oblong, nearly cylindrical, hairy; *legume*, or *seed* pod, oblong, turgid, scarcely longer than the calyx of one cell, and two rigid elastic concave valves; *seeds*, from six to eight, polished, somewhat angular, slightly compressed, with a cloven timid crest.

Species for Underwood, Fencing, &c.

FURZE. ULEX.

Native of Ft.

European or Common	<i>europæus</i>	Britain
Dwarf	<i>nanus</i>	—
Provence	<i>provincialis</i>	S. Europe.

Time of sowing the seed—as soon as ripe in the autumn, or in March. *Soil*—Dry, sandy, and gravelly soils suit best the growth of furze. It does not, however, grow well on very thin heath soil, nor on damp clays. In Cornwall the common sort (*ulex europæus*) attains to 8 feet in height. In Devonshire, according to Vancouver, this species is termed French furze, although we suspect the *ulex provincialis* is the species which ought to come under this name. In some places the *ulex nanus* is called French furze. The botanical distinctions are as follows:

The Common Furze, *Ulex Europæus*.

Branches, erect, somewhat villous; *calyx*, pubes.

cent, teeth, obsolete, converging, bractes densely downy, oval, loose.

French Furze, *Ulex Provincialis*.

Branches, erect, somewhat smooth; *calyx*, a little pubescent, nearly as long as the corolla, teeth, lanceolate, distant, bractes, minute, compressed.

Dwarf Whin, or Furze, *Ulex Nana*.

Branches, decumbent, hairy; teeth of the *calyx*, lanceolate, distant, and spreading; *bractes*, minute, rounded, and close-pressed.

From the above it is evident that the common furze and the French species are nearly allied; the dwarf furze has the leaves or spines shorter and closer, and the branches decumbent. These points of structure distinguish this species from the others at the first sight. Its value is estimated, in comparison to that of the common, as two to one inferior.

The common furze generally attains to its full size in four years, and it ought not to be cut more frequently. In local cases, as in the neighbourhood of potteries, Vancouver observes it makes a return of from 15s. to 20s. an acre annually. The wood is very hard, but never attains to a size available for the business of the carpenter. It is chiefly used for fuel, fences, and food for cows, horses, and sheep. On soils such as now alluded to, it makes a good fence, but requires peculiar management to prevent it becoming naked at the root. Sowing in three tiers on a bank is perhaps the best mode, as it allows of one to be kept low by the shears or bill, the second of higher growth, and the last to attain its natural stature. Respecting its merits as an article of fodder, a good deal has been written; as, for instance, by Duhamel in France, Evelyn in England, and Doctor Anderson in Scotland; and at this time, and for that purpose, as we are informed, it is cultivated successfully by Mr. Attwood of Birmingham. It requires to be chopped or bruised, as a preparative to its mastication. It would be valuable information to know the comparative value of the Whin to that of Lucern, Turnip, Red Clover, cultivated separately, or a combination of *Dactylis glomerata*, *Lidum perenne*, *Festuca arvensis*, *Poa pratensis*, *Cynurus cristatus*, *Lolus corniculatus*, *Phleum pratense*, *Trifolium ripens*, *Trifolium minus*, *Medicago lupulina*, and a small portion of *Achillea millefolium*. The produce of plants constituting the richest pasture plants, when combined on a furze soil, are proper to compare with the produce of furze, to ascertain the most profitable crop with which to occupy the soil in question, and this point has not yet been determined.

Eng. Name. Bot. Name.
LABURNUM; CYTISUS.

Calyx, lobate; *legume*, or seed-pod, tapering at the base; seed, kidney-shaped, compressed.

Time of sowing seed—March. Soil.—This tree attains the greatest perfection on a sandy loam, but it may be planted in almost any kind of soil, except where stagnant moisture prevails. *Uses*—Although an ornamental tree, yet its wood or timber is valuable for various kinds of fancy wood works, such as musical instruments, handles of knives, &c. The wood is very hard, takes a fine polish, and when of sufficient size, may be manufactured into the most elegant kinds of furniture.

In the species here enumerated, the pods are one or two-jointed, joints globular.

Species for Timber, as well as for Ornament, &c.

Monadelphina decandria. Linn.

LABURNUM; CYTISUS.

Common laburnum *laburnum* Ear. 10—25
Scotch laburnum *alpinus*

ROBINIA, or LOCUST-TREE, FALSE ACACIA, &c. ROBINIA.

Calyx, one-leafed, four-lobed; *legume*, compressed, long, gibbous; seed, kidney-form.

Time of sowing the seed—The end of March, on a

bed of light earth. The following spring transplant the seedlings in nursery rows about the end of March, the rows to be three feet apart, and the plants a foot and a half asunder in the rows. In one or at most two years they should be planted out where they are intended finally to remain. Soil.—It will grow in almost any soil, but attains to most perfection in such as is light and sandy. *Uses*—The wood is hard and very durable. It is esteemed, in America, preferable to the best white oak for axle-trees of carriages, treails for ships, posts for rail-fencing; and for withstanding the bad effects of moisture when fixed in damp ground. It is frequently substituted for box by the turners, for the manufacture of sugar-bowls, salt-cells, candle sticks, forks, spoons, &c. It was cultivated in England in 1610, by Mr. John Tradescant, or nearly two hundred years ago. But the only satisfactory authenticated statements we can find of the greatest age of Locust trees now growing in England (with that of their produce of timber) do not exceed sixty years. A locust-tree in the grounds of the late Charles Bloomfield, Esq., Bury St. Edmund's, of sixty years' growth, in 1829, measured in height from forty to fifty feet, and the circumference at three feet from the ground six feet seven inches, the solid contents being fifty-four feet of timber. The limits of these pages do not permit further detail, except to observe that, owing to the brittle nature of the wood when young, the leading shoots of the stems, as well as the branches, are very liable to be broken by the wind, and probably it is from injuries of this kind that many trees are found unsound even before forty years of growth: great attention to early training or pruning appears to be required by the locust. The comparative strength as to fracture of its timber compared to that of oak, appears to be in favour of the former, according to Professor Barlow, fine English oak 1672 to locust 1867. The comparative value of the timber of the other different species of Robinia mentioned below, has not yet been ascertained; their value for ornament is well known.

Diadelphina Decandria. Linn.

ROBINIA.	ROBINIA.	Native of	Ft.
Locust-tree, or False	<i>pseudo-acacia</i>	N. Amer.	35-50
Acacia	<i>viscosa</i>	—	30-40
Clammy	<i>incarnis</i>	—	—
Spineless	<i>macrophylla</i>	Siberia	—
Long-leaved	<i>umbraulifera</i>	—	—
Parasol	<i>stricta</i>	—	—
Upright	<i>pendula</i>	—	—
Pendulous	Ornamental only.	—	—
Rose Acacia	<i>hispidula</i>	Carolina	60
Purple	<i>purpurea</i>	—	—
Smooth-branched	<i>rosea</i>	Carolina	—

Eng. Name. Bot. Name.
KENTUCKY COFFEE-TREE, OR HARDY BONDUC. GYMNOCLADUS.

Dicera Decandria. Linn.

MALE FLOWER—*Calyx*, five-toothed; *corolla*, five petaled. **FEMALE FLOWER**—the same as the male; *style*, one; *legumen*, one-celled; *seeds*, several, embedded in a pulp. Propagated by suckers from the root, as well as from seed.

Kentucky Coffee-tree. *Canadensis* N. Amer. 40

There is only one species of this tree. In its native soil of that part of Genesee which borders on Lake Ontario and Lake Erie, and in the states of Kentucky and Tennessee, Michaux states it to attain to fifty or sixty feet in height, and that the stem is often destitute of branches for thirty feet, while the diameter seldom exceeds twelve or fifteen inches. In summer, when it is fully grown, it has a fine appearance. On young trees the leaves which are doubly compound, are three feet long and twenty inches wide. The bark is very rough, and detaches itself in small vertical strips. The name of coffee was given to this tree by the early emigrants to Kentucky. The seeds appear to possess no culinary value. The

wood is very compact and of a rosy hue, which fits it for the use of the cabinet maker. Michaux observes that, like the locust, it exhibits almost nothing but heartwood, for that six inches in diameter has only six lines of sap-wood. These qualities, he observes, recommend it for culture in the forests of the north and centre of Europe. It was introduced into England, in 1748, by Archibald Duke of Argyll, but its culture appears not to have extended beyond the garden.

(To be continued.)

(From the New York Farmer.)

CULTIVATION OF WATER-MELONS.

Extract of a letter from a member of Congress to his friend at Lansingburgh, dated Washington, March 5, 1832.

I send you a few water-melon and canteloup seeds taken from melons raised last year in my garden from seeds from Italy. If there were more of them, I should ask you to divide with Mr. Buel of Albany. I will take the liberty of suggesting my mode of planting, recommending it to you to try the experiment upon two or three hills—only as your soil may require a different course. My soil is alluvial, [on the banks of Connecticut river.] Dig the holes for the hills, fifteen inches deep and two feet across; fill it four inches with the cleanings of the garden and straw or long manure from the barn yard, and pound it down solid—fill the remainder of the hole with rich soil, covering the top with an inch of fine compost, or sheep manure, mixing in, say a peck of sand with the soil—again covering the compost or manure with, say one half of an inch of soil; on this plant the seed by sticking them down; then cover the seeds with an inch of sand. I recommend the sand covering as a considerable preventative against the mischief of yellow bugs. [2 plants to a hill.]

I am not certain that hoeing is of any use, after this mode of planting. I therefore, recommend to have one hill not hoed, or the sand moved. I have not usually had the sand disturbed until after the yellow bugs are principally gone. The sand should be kept moist until after the seeds have come up. The principle on which sand prevents injury from the bug is, that the reflection of heat from the sand to the under side of the leaf, hardens it early, and renders it unfit for food; in proof I mention the following. In a square of twenty-five hills, the centre row, both ways, was left without sand, and the square was left to the mercy of the bugs. The result was, that every plant without sand was destroyed, while a sufficient number was left in the other hills, for growth, [though many were injured.]

(From the New England Farmer.)

DESTRUCTION OF FRUIT TREES.

MR. FESSENDEN: Boston, March 31, 1832.

I have been repeatedly applied to by cultivators, since the ascertainment of the deep and extensive injury to fruit trees during the late disastrous winter, for advice as to the course to be pursued in a case so singular, and, as I believe, wholly unexampled in this country or in Europe. I have no doubt, that the destruction occasioned by the late winter, whatever may be the causes of it, is as wholly new as the Asiatic cholera, which is spreading itself throughout the world. I have been extremely embarrassed by these applications for advice, as much so as medical men seem to be as to this new disease so alarming to human life. It would be the highest presumption for one so conscious of his own ignorance, to undertake to give advice in such a new and unexampled case. But there are certain general rules and principles, and certain facts which are of more moment than rules, because they lie at the foundation of all sound practice, which may guide us in this case.

The mischief, in the present instance, has been extended to trees and plants which have for two hun-

dred years, uniformly endured the severity of the climate of Massachusetts. The peach trees is the only exception. I think it may be affirmed of the tender varieties of that tree, that it suffers from frost in our Massachusetts climate, more or less fatally, in about one year in five. It suffers from other causes more frequently, and I think, I hazard nothing in saying, from forty-four years' personal experience, that a good crop of fine and perfect peaches cannot be fairly relied on, in more than one year out of four. Happily, the rapid growth of that tree and its early coming into bearing, is some recompense for its great tenderness.

But although the hardier fruit trees have always withstood the severity of our winters, we have at all times had among us trees and plants of a more delicate and tender nature, which frequently suffer by our too severe climate, such as the Madeira nut or English walnut, the Bignonia, Catalpa, the Bignonia radicans, and many others. These are often deeply and seriously affected by our winters, and the treatment applied to them may be some guide as to the course to be pursued with the peach, nectarine, apricot, plum, pear, and apple, in the present disastrous condition of these trees. Now, what is the most judicious course in such cases? Not to prune before the tree shows the extent of the injury done to it. When the buds break, (if they shall break, which is this year doubtful in many cases,) to prune back to the first vigorous and healthy shoot; to disregard all feeble shoots which have a sickly appearance; to cut off fearlessly all limbs, however large, which exhibit the appearance of decline or feebleness; to encourage only those shoots which give promise of future vigor; to abandon the wish to preserve the next year's fruit, at the expense of several years' disease.

I am well aware that these rules are loose and so are all general rules. The good sense and sound judgment of each individual must govern at last. But this I would say, that where the new shoots are feeble, the bolder the pruning the greater will be the success. I infer this from experience as to semi-hardy plants, which suffer every winter with us.

AGRICOLA.

Note to the above.

Curious and anomalous facts for the consideration of philosophical farmers.

1. The semi-hardy plants have stood the late winter better than the hardy ones. The Magnolias, the Calicanthas Florida, the Bignonia, Catalpa, have not suffered; while the roses of the hardiest descriptions have been cut down to the surface. The Maclure Aurantiaca of the Arkansas, has not suffered.

2. The slightest possible protection has secured plants, though the ground under that protection has had eighteen inches of frost.

3. Potatoes have been dug up at four inches depth, in a finer and fresher state than those gathered and stored in cellars.

These certainly are curious facts, that they are facts, the readers of this article may be assured. They are not exceptions; they are nearly universal on my estate. How are they to be explained? First, then, as to the plants of southern climates; they lost their leaves and soon after all their circulations, early in October; cold which was not hurtful to the pear leaf, was death to them; their buds were cases in their wintry coating; they were not moved by the comparatively inviting, but chilly warmth of November. Simple cold is rarely destructive to a thoroughly well ripened stalk or bud. Hence, all the Magnolias, the Calicanthas and Bignonias having no freezeable fluids in their vessels, escaped; while the apple, pear, cherry and peach, continuing in a state of circulation till the tremendous cold of early December, perished. Such is my fancy.

2d and 3d. As to the two other facts referred to, they have often excited my astonishment; they are not new but perfectly familiar to most of us. They have never been explained, and what is singular, there ne-

ver has been (so far as I know) even an attempt at explaining them. They seem to me to have been abandoned, as among the facts above, or beyond our reach, as much so as the cause of vitality and heat in animals and vegetables. It is undoubtedly owing to some power like that which preserves animal heat in living bodies, when dead flesh will freeze solid; but we are ignorant of the cause. That a potato should be kept fresh, when the ground is frozen one foot below it, is a matter, though certain, above our reach.

(From the Genesee Farmer.)

SWEET BRIERS AND HEDGES.

In the 1st No. of the 3d Vol. of the Genesee Farmer, friend David Thomas says, that the sweet brier hedge which shelters the west side of his garden, is on the decline. Let me suggest to him the experiment of cutting out all the old branches; or if they are too thick and matted, even the whole tops of the hedge, close to the ground during this month, and when the earth is dry enough, to spade it up thoroughly on each side of the hedge. The consequence he will find to be, that a beautiful new growth of shoots will spring out from the old stumps, which will be six feet high next September, and in one year his hedge will be replenished with a new, clean, and fragrant head, "the sweetest shrub in all the world."

I know of no age at which the sweet brier declines, if properly nourished. Let the shrub be ever so old, so long as the breath of life remains in it, it can be saved. It is only to cut off the top, "dig about and dung it," and new roots are thrown out, a fresh top springs up, and it at once resumes its life and vigor. This fact I have observed in many instances.

Two years ago, I wanted a hedge of sweet brier. Thousands of them grow on the old battle grounds of Fort Erie on the Canada shore. I sent a man ever there to take up a quantity. He cut off the tops with a bill-hook; then with a mattock he took them up and brought them home. They were old roots, and the tops had been much browsed by sheep which run upon the common. The roots were decidedly bad, being mere stubs, with few or no lateral prongs. They were set out, and I am ashamed to say, have had scarcely any attention since. But they now have fine vigorous tops, and next year will be five or six feet high. I set one or two under a window which have had some care, and they are very thrifty. I have seen others managed in this manner with excellent effect. It makes a delightful hedge, and when thickly planted, impervious to common cattle, sheep and horses.

I have seen a vast deal written about hedges in America, and I have seen a good many hedges; but I have serious doubts whether they would be to the advantage of the farmer if they were generally grown. I do not think we can compare advantages with England in the use of them on equal terms. Our climate is dry in summer, and heavy frosts leave our grounds in the spring. England has a very moist climate, and but little frost compared to ours. Of course that country can grow hedges with greater facility than we can. Travellers say that their hedges look fresh and green. Ours, as far as my own observation extends, look rusty, mildewed, and stunted; and let the cause be what it may, I doubt much whether we can grow so good looking hedges in America as in England.

There are serious objections to hedges, and I will state a few of them.

They require protection for five years by a fence. They want continual clipping, weeding, plashing and cultivation.

They take up much room that might be used to more advantage.

Now I will respectfully ask any experienced farmer, if, with a provident care of his timber, where stone are not to be had in sufficient plenty for fencing, almost every farm in the country could not easily supply its own fences of either post and rail, or boards, in sufficient quantity for the good husbandry of the

farm, without creating a heavy tax on the estate? I say in sufficient quantity, for I have no opinion of the custom of fencing every farm into goose pens for no demonstrable use whatever in good farming.

Stone fences are, past a doubt, the best in the world. They last for ever. But where stone cannot be obtained, a wooden fence is next—will last from fifteen to fifty years, according to the material; makes little or no waste ground, and with common prudence can always be supplied from the farm.

For fifty years past, hedges have been tried more or less throughout our country, and volumes have been written on their utility, mode of culture, and material. I should be pleased to know if there is one farm in the state of New York well secured by a hedge; and would respectfully ask any one of those eminent and respected gentlemen who have given their experience and opinions of hedges in the "Memoirs" of the late Board of Agriculture, if they have been satisfied with the utility of their own or other hedges with which they are acquainted, taking into account the cost, material, and annual expenditures? It is an important subject, and ought to be well understood. If I am wrong in my premises, or should my queries be successfully answered, I shall be happy to acknowledge my error of opinion.

ULMUS.

(From the New England Farmer.)

REVIVING PLANTS, &c.

The London Mechanics' Register gives a method of reviving plants, &c., which may prove useful to those who wish to revive scion buds, &c., when their leaves and buds are faded, and their bark and roots hard and nearly dry. The directions are to dissolve camphor to saturation in alcohol, adding the former until it remains solid at the bottom of the latter; a sufficient quantity of rain or river water is then to have the alcoholic solution added to it, in the proportion of four drops to one ounce of water. As the camphor comes in contact with the water, for a short time the camphor will float on the water in small fleeculi, but will ultimately combine with the fluid and disappear.

Plants which have been removed from the earth and have suffered by a journey or otherwise, should be plunged into this camphorated water, so that they may be entirely covered. In about two or at most three hours, the contracted leaves will expand again the young, faded, and dependent shoots will erect themselves, and the dried bark will become smooth and full. That being effected, the plant is to be placed in good earth, copiously watered with rain or river water, and protected from the too powerful action of the sun until the roots have taken good hold of the ground.

If plants thus treated, are not restored in four hours, their death may be considered as certain, for they cannot be recalled to life by any artificial means.—They should, consequently, never be left more than four hours in the camphorated bath; because the exciting action of the camphor, when it is continued for a longer period, may injure the plants instead of doing good to them. It is not necessary to say, that the final prosperity of the plants thus reanimated by camphor water, must depend on the particular properties of the former, the state of their roots, and the pains that are taken with them. The camphor produces no other effect than to restore life to plants nearly dead; after that, all proceeds according to the ordinary laws, and their ultimate state must be left to art and nature.

(From the Long-Island Star.)

SALT FOR PEACH TREES.

An intelligent farmer of Brushwick, assures us that the application of common salt to the roots of his peach trees has had a good effect, in keeping the miller from depositing its eggs on the bark, and promoting the growth and the fruit of the tree.

Paper from Wood.—It has lately been discovered, says an English Journal, that the best paper for wrappers, writing and printing, may be produced from wood shavings boiled in mineral or vegetable alkali. One hundred pounds of wood and twelve pounds of alkali, will produce a ream of paper.

How to bend Iron Pipe without cracking.—Fill the pipe with melted lead, and immediately on the lead ceasing to be fluid, and while it is yet warm, you will find the pipe bend very kindly in any form you please. By keeping up the warmth, you may adjust the bend into any form you desire, as iron will very readily bend at that heat. After having obtained the desired curve, the lead can be melted out.

[New York Farmer.]

Prices Current in New York, May 5.

Beeswax, yellow 18 a 20. Cotton, New Orleans .11 a .13; Upland, 84 a .11; Alabama, 9 a .11. Cotton bagging, Hemp, yd. 14 1/2 to 17; Flax 13 a 14; Flax, American, 7 a 9. Flaxseed, 7 bush. clean —; rough —; Flour, N. York, bbl. — a 5 31; Canal, 600 a 6 25; Balt. Hwd-st. 5.50 a 5.56; Rhd. city mills — a 6 12; country, 5.43 — a; Alexandria, 5.37 a 5.50; Ryder,icksburg — a 5.25; Peters, 5.31 a —; Rye Flour, 4.00; Indian Meal, per bbl. 2.75 a 2.87; Yd. 13.50 a 15; Grain, wheat, 1.08 a 1.12; H. 1.10 a 1.13; Rye, North, 78 a; Corn, Vt. Nor. 58 a 55; Barley, — a; Oats, St. and North, 40 a 47; Peas, white dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess 8.25 a 9.25; prime 5.25 a 5.62; cargo — a —; Lard, 74 a 84; Pork, mess, bbl. 12.50 a 13.25; prime 10.25 a 10.64.

THE AMERICAN FLOWER GARDEN DIRECTORY.

Containing practical directions for the culture of plants in the hot-house, garden-house, flower garden; and rooms or parlours, for every month in the year, with a description of the plants most desirable in each, the nature of the soil and situation best adapted to their growth, the proper season for transplanting, &c. Instructions for creating a hot-house garden, and laying out a flower garden. Also, table of soils most congenial to the plants contained in the work. The whole adapted to either large or small gardens, with lists of annuals, biennials, and ornamental shrubs, contents, a general index, and a front-piece of Camellia Fimbriata. By Hibbert and Buist, Exotic Nurserymen and Florists.

Just received and for sale at the American Farmer Office and Seed Store. Price, \$2.

PRINCE'S POMOLOGICAL MANUAL.

SECOND PART.

Being a "Treatise on Fruits; containing descriptions of a great number of the most valuable varieties for the orchard and garden."

Just received and for sale at the American Farmer Office and Seed Store. Price \$1.

ALSO, RECEIVED AS ABOVE,

THE ANNUAL CATALOGUE, for 1892, of Fruit and Ornamental Trees and Plants, cultivated at the Linnaean Botanic Garden and Nurseries, at Flushing, Long Island, near New York, by William Prince & Sons, Proprietors.

LUCERNE AND WHITE MULBERRY SEED.

Just received from Europe a supply of Fresh Lucerne Seed of prime quality, which will be sold at market price; and also a quantity of White Italian Mulberry Seed fresh and of fine quality, at 50 cents per ounce. J. S. EASTMAN.

WHITE MULBERRY SEED.

Just received, direct from Europe, at the American Farmer Office and Seed Store, a supply of White Italian Mulberry Seed, warranted genuine and fresh, at 50 cents per ounce. Orders addressed to I. I. Hitchcock will be attended to without delay.

N. B. An ounce sent by mail will be charged with quadruple letter postage for the distance sent.

CARBONATE OF LIME FOR IMPROVING LAND.

The subscribers are agents for furnishing marl containing seventy-nine per cent. of carbonate of lime—it can be delivered along side of vessels, or on a wharf, or any of the navigable waters of the Chesapeake, at the rate of 10 or 12 cents per bushel.

Also a fresh supply of cow peas just received and for sale by
SINCLAIR & MOORE,
Near Pratt street wharf, Baltimore.

GARDENER WANTED.

Wanted immediately, a good Gardener.—Such a one desirous of obtaining an eligible and permanent situation will do well to apply to the Editor of the American Farmer. May 4. 2t.

DURHAM SHORT HORN BULL CALF.

A full blood improved Durham Short Horn Bull Calf, by Gloucester, out of a first rate thorough bred Cow, four months old, well formed, of good size and points, for sale by the Editor of the American Farmer. Price, if immediately taken, \$150. Apply to I. I. Hitchcock, office of the American Farmer.

FLOWER SEEDS.

Just received a supply of fresh Flower Seeds of last year's growth, many of which are new and the most rare London varieties; 64 cents per paper.

Early striped Marigold, Mexican Ageratum do., Bladder Katmia, Clematis Flamula, Poppy 4 fine varieties, Scarlet Mallow, Showy Schizanthus, Wing leaved do., Clarkea Polchella, Primrose, 4 varieties, Azure Blue Gilla, African Hibiscus, red Ice Plant, White Cypress Vine, Larkspur, 3 sorts, Convolvulus 4 varieties, Honesty or Satin Flower, Sweet Basil, Paeony, Polyanthus, Mourning Bride or Sweet Scabius, Floss Idonis or Pheasant's Eye, Love Lies Bleeding, Prince's Feather, Globe Amaranthus, red and white, China Aster, 4 varieties, Scarlet Cæcilia, Sweet Sultan, Chrysanthemum, mixt colors, Job's Tears, Morning Glory, mixt colors, Gourd, 3 sorts, Pomegranate or Sweet Scented Melon, Variegated Euphorbia, Flowering Beans, 6 varieties, Balsam, mixt colors, Cypress vine, Sweet Peas, 8 sorts, Lupinus, mixt colors, Ice Plant, Marvel of Peru, Forget-me-not, Evening Primrose, Sweet Scented Mignonette, White Egg Plant, Catch Fly, Marigold, of sorts, Devil in a Bush or Love in a Mist, Nasturtium, Heart's Ease or Pansey, Purple Candy Tuft, Fading Beauty, Golden Eternal Flower, Mock Orange, Snake Melon, Snails, Double Purple Lady Slippers, Monk's Hood, Hollyhock, mixt colors, Scarlet Snap Dragon, Columbine, Scarlet Trumpet Flower, Canterbury Bells, Bloody Wall Flower, Stock Gilliflower, mixt colors, Sweet Scented Virgin's Bower, Pink, mixt colors, Sweet William, Fox Glove, assorted, French Honeysuckle. Also, 50 other fine varieties not enumerated.—For Sale by
SINCLAIR & MOORE,
Pratt street wharf.

AGRICULTURAL IMPLEMENTS AND FRESH GARDEN SEEDS.

The subscriber offers at his store and manufactory, No. 36 Pratt street, between Hanover and Charles streets, a great variety of AGRICULTURAL IMPLEMENTS; consisting of his Patent Cylindrical STRAW CUTTERS; Gideon Davis' Patent PLOUGHS, with cast and wrought shares, and Castings for the same to supply those worn out; Substratum and Shovel Ploughs; Harrows; Robbins' Patent Corn Planter; Corn Cultivators, Corn Shellers; Wheat Fans; Wire Saws, Hay and Manure Forks, by the single or dozen; Grass and Grain Seythes; Grain Cradles; Hay Rakes, Mattoes; Picks and Grubbing Hoes; Weeding and Hilling Hoes. A variety of Garden and Horticultural TOOLS, &c. &c. Those articles manufactured by himself special pains have been taken to procure the best materials and to have the work executed in the best manner.

Also, a great variety of GARDEN SEEDS, both European and American, and all of last year's growth, embracing a great variety of Beans, Cabbages, Radishes, late Peas, Bean Seed, &c. &c. And the following FIELD SEEDS, viz: Tall Meadow Oat Grass; Lucerne, of Prime Quality; Mangle Wurtzel, Rinta Baga; Large Yellow Pumpkin, by the quart or bushel; and White Italian Mulberry SEED, of prime quality.

Ap. 20. J. S. EASTMAN.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—The market continues steady. A sale of extra quality City Mills flour was made a day or two since at \$5.75, four months' credit. Our quotations embrace the rates of common brands. The wagon price of Howard street remains at \$5.25. No change in grain. Rye is very scarce and would readily command our quotations.

Tobacco.—Seconds, as in quality 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crep, common, 3.00 a 5.00; brown and red 4.50 a 6.00; hne red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 5.00 a 15.00; yellow, 15.00 a 19.00.—Fine yellow, 18.00 a 22.00.—Virginia, 4.00 —, Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 588 hhd. Md.; 26 hhd. Ohio; 23 hhd. Kentucky; 3 hhd. Virginia; and 2 hhd. Pennsylvania—total 642 hhd.

Flour.—best white wheat family \$6.75 a 7.25; super Howard-street, 5.37 a 5.50 city mills, 5.50 a —; Susq. 5.25 a —; CORN Meal bbl 3.50; GRAIN, best red wheat, 1.10 a 1.12; white do 1.15; Susq. 1.20, a —.—CORN, white, 46 a — yellow 46 a 47; RYE, 70 a —.—OATS, 35 a 36.—BRANS, 75 a 80.—PEAS, 65 a 70.—CLOVER-SEED 6.00 a 6.50.—TIMOTHY. 2.00 a 2.50.—ORCHARD GRASS — a —.—Tall Meadow Oat Grass — a —.—Herd's, 75 a 87 1/2.—Lucerne — a 37 1/2 lb.

BARLEY.—FLASKER 1.50 a 1.62.—Cotton Va. 5a 10 1/2.—Lou. 9 a 13.—Alab. 8 a 10.—Tenn. 8 a 9 1/2; N. Car. 8 a 9 1/2.—Upland 8 a 11.—Wicks, hhd. 1st. 24; 2d. in hbls. 29 a 30.—Wool. Washed, Prime or Saxony Fleeced 4 a 5 1/2; American Full Blood, 40 a 45; three quarters do. 36 a 40; half do. 34 a 36; quarter and common do. 30 a 34. Unwashed, Prime or Saxony Fleeced, 30 a 34; American Full Blood, 26 a 28; three quarters do. 24 a 26; half do. 22 a 24; quarter and common, 15 a 22.—Hemp, Russia, ton, \$25 a 28; Country, den-rivelled 54 a 80 lb. water-rolled 7 a 9c.—Feathers 35 a 56; Plaster Paris, per ton, 3.57 a 4.00, ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Susq. per ton, 72.50 a 80.00.—Prime Beef on the hook, 5.75 a 6.50.—Oak wood, 3.25 a 3.50.—Hickory, 4.50 a —.

CONTENTS OF THIS NUMBER.

Editorial; Hexagonal Mode of Planting Corn; Domestic Botany, "Wild Flowers"—Wash or Paint for Fences and Out-houses—Proper Name of Joannin or Johnny-eake—Recipe for Mildew—Foreign Markets—Letter from Dr. Harden on Hexagonal Planting, and on Planting Corn generally—Letter from R. K. Meade on Wheat Degenerating to Chess—On the Application of Plaster as Manure—Planting, chapter vii, Enumeration of the Different Species of Forest Trees—Cultivation of Water-Melons, Manner of Planting the Seed—On the Destruction of Fruit Trees from the Severe Frosts of last Winter, and Curious and Anomalous Facts for the Consideration of Philosophical Farmers—Reviving Plants that have been Injured by Renovation—Salt Recommended to keep the Miller from Depositing its Eggs on the Bark of Peach Trees—Paper from Wood—How to Bend Iron Pipe without Cracking—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

EDITED BY GIDEON E. SMITH.

Published every Friday, (at the old office, basement of Barnum's City hotel,) by I. IRVINE HITCHCOCK, on the following

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged by the year, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without special order; and then not till the end of the year of this subscription that shall be entered at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted gratis (exceeding more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

37. All Postmasters are requested to act as agents for the Farmer; they are authorized to retain \$1 for each new subscriber, and 10 per cent. on all other collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, MAY 18, 1832.

THE AMERICAN FLOWER GARDEN DIRECTORY.—Messrs. Hibbert and Buist, cultivators of exotic plants, in Philadelphia, have just published a very excellent book with the above title. We have given it a pretty thorough examination, and, so far as we are capable of judging, consider it an acquisition to the cultivator of flowers. The authors are among the best and most successful cultivators in the United States, particularly of exotic plants,—and are, therefore, very capable of advising others. We are not sure, that professional gardeners will think as highly of the work as they would have done, had the authors bestowed more attention upon the *propagation* of the more rare and valuable exotics; but this, they say, would have swelled the book to double or treble its present volume. It teaches the best mode of laying out and managing a garden, managing green and hot houses, and plants in rooms, and gives a great deal of useful information to both professors and amateurs of the floral art. The authors have bestowed much attention upon the correction of the botanical arrangement of plants, and hence, we find many of our old friends with new names,—and some of them, we think, none the better for it, even though “a rose by any other name would smell as sweet.” Who, for example, will ever again admire the fragrance of the *Hemerocallis Japonica*, or Japan day lily, when informed that it is now called *Funkia alba*? Certainly this plant was no more like the other plants called *hemerocallis*, than a dahlia is like a sunflower; but why adopt such a name for such a plant? Names go a great way in this world, and have great weight too, let Shakespeare say what he will, and we should be careful in selecting good sounding ones. *Funkia*! who would ever think of presenting a bouquet of *Funkias* to a lady. But this is not the fault of the authors of this book—the name must have originated with some miserable hypochondriac whose habitual use of *assafetida* had completely turned his sense of smell.—In recommending this book to the patronage of the public, we feel that we are doing no more than our duty.

We should have observed, that the book is embellished with a most beautiful colored lithograph of the *camellia fimbriata*—double white fringed *camellia japonica*, as a frontispiece.

The following notices of the work, are from very respectable sources. The editor of the Lancaster Miscellany particularly, is a good judge of floricultural works.

(From the Lancaster Miscellany.)

Messrs. Hibbert and Buist are so well known to the florists of Lancaster, and its vicinity, that any treatise prepared by them, on the cultivation of plants, would be favorably received. We have read the work, and recommend it as a good practical director for the propagation of plants, and admire it for its arrangement and digest. There are numerous works upon this subject, but we have no hesitation in saying, this is the best that has yet appeared; it is adapted to our climate, and our culture. Such a work has long been a desideratum, and cannot fail to advance the interest which the lovers of Flora take in this most rational and delightful of all pursuits.

(From the National Gazette.)

We see with great pleasure, that Messrs. Hibbert and Buist, nurserymen and florists of this city, have published the work upon which they have been long employed, with the title—“*The American Flower Garden Directory*.” It was a desideratum for the convenience of all persons who have the inclination and leisure to cultivate flowers—a recreation of the most

interesting and liberal kind, which particularly becomes the fair sex. This volume is an octavo of 375 pages, in a large type, and supplied with all the details of information which could be supposed to be requisite for its purpose. It contains, as announced in the title page, practical directions for the culture of plants in the house, garden-house, flower garden, and rooms or parlors for every month in the year,—a description of the plants most desirable in each,—the nature of the soil and situation best adapted to their growth,—the proper season for transplanting,—also, instructions for erecting hot and green houses and laying out flower gardens,—lists of annual, biennial, and ornamental shrubs,—and a general index to the whole. The long and ample experience and established reputation of the authors as practical florists, forms an assurance of the practical value of their opportune work.

(From the Lancaster Miscellany.)

ON VEGETATION.

The locust tree, *Robinia pseudo-acacia*, is one of the most useful trees for the durability of its wood, and is much admired for the beauty of its flowers and foliage. From the regularity with which it unfolds its leaf buds about the twenty-eighth of April, many farmers are ruled by it in planting Indian corn, and gardeners in sowing Lima beans.

That excellent and distinguished botanist, the Rev. Dr. Muhlenberg, advised not to throw off flannel until the blossoms of the locust were fully expanded. Michaux remarks, “that the locust was in full bloom at Harrisburg, from the first to the fourth of June, 1808, in latitude 40 deg. 20; and at Paris, in 1812, at the same time in latitude 48 deg. 50.” The temperature probably the same.

The high temperature on Friday, the twenty-seventh of April, caused the leaf buds of the locust to open in this vicinity, and I have been informed by a letter from the intelligent editor of the American Farmer, that on his farm, four miles from Baltimore, “there was no indication of vegetation on Wednesday the twenty-fifth, but on Thursday the twenty-sixth, the leaf buds opened, and on the twenty-seventh, the leaves had expanded.” The locust requires a temperature of seventy-five degrees, to cause them to vegetate. The temperature on Wednesday, was fifteen degrees lower than on Thursday and Friday, the last two days being of the same temperature.

The locust will ever prove to the farmer and horticulturist, an unerring guide, pointing out the cessation of severe frost.—The locust is frequently destroyed by an insect, which penetrates into the wood. I have been informed that a hole bored by a small auger to the heart, and filled with sulphur; will prove an effectual remedy. When the *Cornus Florida* (dog-wood,) is in blossom, or the chestnut leaves opening, then is the commencement of fishing for blackfish and trout.

To observe the temperature at which different trees and plants vegetate, will prove of great utility to the farmers and horticulturists. The progress of vegetation is retarded, according to the temperature required for its production. He who takes the progress of vegetation for his guide, will require no thermometer, for by observing the different times, different plants vegetate, he can regulate his crops and garden plants accordingly, and thus secure them from frost. As the locust unfolds its buds and expands its leaves, the farmer plants his corn and fears no danger. F.

Mice in the Meadows.—The Northampton (Mass.) Courier says:—We are told that the short tailed field mouse, has made destructive ravages in the meadows. Whole acres are ploughed up, the roots of the grass destroyed, and the trees, where there happens to be any, are divested of their bark in a most workmanlike manner. In consequence of the snow falling before

the soil froze, they formed habitations above ground, and have multiplied in prodigious numbers during the past winter, in proportion as three to one in ordinary seasons. These mice are usually food for foxes, the weasel, the long-tailed mouse, and often, when provision is scarce, eat each other with avidity. They are often most destructive to fields and fruit trees, eating up every thing around them, existing in such prodigious numbers as to defy all possible precautions; should the meadows not be inundated this spring, and the mass of them drowned, we fear their ravages will be seriously felt by our frugal husbandmen, the ensuing summer.

Thoughts on Flowers.—“Are not,” asks the author of Atherton, “flowers the stars of earth, and are not stars the flowers of heaven? Flowers are the teachers of gentle thoughts, promoters of kindly emotion. We cannot look closely at a flower without loving it. They are emblems and manifestations of God’s love to the creation, and they are the means and manifestations of man’s love to his fellow creatures, for they first awaken in the mind a sense of the beautiful and the good. Light is beautiful and good; but on its undivided beauty and on the glorious intensity of its full strength, man cannot gaze; he can comprehend it best when prismatically separated, and dispersed in the many colored beauty of flowers; and thus he reads the elements of beauty, the alphabet of visible gracefulness. The very intility of flowers is their excellence and great beauty; for by having a delightfulness in their very form and color, they lead us to thoughts of generosity and moral beauty, detached from and superior to all selfishness; so that they are pretty lessons in nature’s book of instruction, teaching man that he liveth not by bread, or for bread alone, but that he hath another than an animal life.”

(From the New England Farmer.)

THE TOAD.

This animal, so odious in its general appearance, is nevertheless a most faithful and devoted servant to the gardener. I have had occasion to remark, while opening and preparing the earth for seed, the activity of the toad in appropriating to its own use the great variety of insects which infest our grounds. From observations which I have made, I have been led to the conclusion that it can distinguish its object at a considerable distance, upon which it fixes its piercing eye and towards which it rapidly advances; and when near enough for its purpose assumes a stooping posture, which it preserves for a moment, then, with the quickness of thought, it darts out its long fiery tongue, transfixing its prey, which it immediately conveys to its capacious mouth. Espying some of those worms used in angling, I occasionally threw them to one of these animals near by, whose length compelled it to use its feet for the better disposing of the worm, in order that it might be more easily swallowed.

On another occasion, I observed upon the side of an out-building one of the largest species of red ants, six or eight inches from the ground, which was noticed likewise by my friend, the toad, who generally casts its eye downwards in search of sustenance, but when self-interest requires, can look up and jump too, which it actually did with complete success.

I have never discovered, neither been able to learn, that they are injurious to vegetables, although they frequently burrow into and disfigure our beds. I presume to say that one half of the labour of the gardener employed in the destruction of bugs and worms, might be saved, if a number of toads were placed in the vicinity of our vines, with a shelter near, under which they could secrete themselves, from which they would issue forth at the approach of evening when our enemies are out committing their depredations, and devour them at their leisure.

PIONEER.

AGRICULTURE.

(From the Southern Agriculturist.)

SALT-MARSH.

Observations on the various uses to which Salt-Marsh may be applied; by the Editor.

The great quantity of salt-marsh which borders our sea-coast, and grows with such luxuriance, might be turned to great advantage by such of our planters as live in the vicinity.

We are aware that it is much used by some, but the number of these are small when compared with those who might avail themselves of its benefits if they would, but who now almost (if not entirely) neglect it.

Some are indifferent to the subject, and others not aware of the uses to which it may be applied.—Without pretending to know all of these ourselves, or the great advantages which may be derived from a more general and extensive use of the marsh, we still wish to draw the attention of our planters to the subject. As manure, it has long been tried on our sea-land, and some experiments have been made with it on the main-land. We are not in possession of sufficient information to give these in full, suffice it for the present to say, that for cotton, corn and potatoes, it has been found most excellent. We are sorry that we are not able to give any thing like an account of the mode of using, and the benefits derived from its use, but none of these experiments were tried by us, and we cannot at present obtain the information from those from whom we received the statements. We hope that some of our correspondents who reside on the sea-board will give us accounts of their experiments, and thus fill up what we cannot at present. This much we know, that when it is carted into the cow-pen or stable, is trampled for some time by the cattle, and becomes well mixed with their excrements, it is one of the finest manures we have ever used for either the sweet or Irish potato. We have used this compost for other crops, but our experiments were not sufficiently accurate to enable us to determine its comparative value for them.

When we took up our pen, it was not with the intention of discussing its merits as a manure, but to notice its value as food for horses and cattle. During the spring and early part of the summer, the dray and cart-horses of our city are chiefly fed on it, and by some allowed no other provender. It is found to be beneficial to them, and that they continue in as good condition as when allowed hay. Many persons allow it to their gig and carriage-horses; and for our part we make use of it for all of our animals, as early in the spring as we can obtain it, and continue its use for several months. We believe it to be highly beneficial, and our horses appear to improve very much on it; in fact at no time are they in better condition than whilst fed on marsh. At first it acts as a gentle purgative, and perhaps in this consists some part of its benefits; this, however, soon ceases; should it not, it may be checked by a return to dry food, or by the use of rice-flour.* It continues to act as a diuretic during the whole time of its use.

* We know of nothing which will fatten a horse so soon (especially an old one) as rice flour and marsh, allowing one and a half pecks of flour per diem and as much marsh as is usual. Many persons condemn the use of rice-flour as food for horses, especially for those which are at hard work, believing it is apt to founder them, and if it does not, yet it is too light for them to labour on. We have made use of rice-flour on our plantation for the last fifteen years as food for working horses and mules, and we have never had one founder—their condition, moreover, has been, during our stay on the place, as good as we would wish. We could enumerate many plantations where the same plan is pursued with similar success. We are aware that this is somewhat at variance with the experience of many of our rice-planters, but we think it is no hard matter to account for the frequent founders which oc-

cur but it is not as food for horses and mules only, that it is useful and deserving of the attention of the planter. No one will doubt that if it is good food for them it will prove equally good for cattle, yet few think of procuring it for them, although growing so abundantly around, and fewer still think of collecting, curing, and stacking it away for their winter supply. Yet, independent of the better condition that the cattle would be in, the quantity of manure which could by this means be made, would amply repay the expense of collecting and putting it away to be fed out in winter. Before proceeding to this part of our subject, we will make a few remarks relative to it as green food. To those who are disposed to soil their cattle, the salt-marsh will prove a most valuable auxiliary, for independent of its being an excellent article of food itself, it is the earliest which can be obtained unless uncommon pains be taken with rye, oats, or barley, or the planter be disposed to cultivate the *Elymus Virginicus*, to which we have before alluded in this journal. All of these, however, will require considerable attention, except the last (and even this will be much the better for it) whilst the marsh is ready every spring for us, without the least trouble on our part, and we have nothing more to do, than to cut and bring it home. Our readers may be desirous to know whether it can support cattle alone—whether the milk is not totally spoiled by its use, or at least rendered so unpleasant as to be unfit for the consumption of the family—and finally, what quantity can be obtained by each hand.

To all of these queries we can speak from our own experience. We know not whether cattle can be fattened on it without the aid of other food, as our experiments were never directed to this point; but this much we have ascertained, that they will, on a liberal supply of green marsh, remain in good condition, and not lose flesh. We have tried this experiment twice—the first was with three milch cows which were kept up in a pen, and allowed nothing but marsh, and when turned out at the expiration of two months, in consequence of our returning to the city for the summer, they were in as good condition as when put up, although giving milk during the whole time.—The last year we experimented upon twelve head of cattle. They had been kept up and fed during the whole winter, and although not fat enough for the butcher, yet were in very good order. As soon in the spring as we could obtain the marsh in sufficient quantities, we commenced using it freely, and although at first, in consequence of the inadequate supply, we were compelled to give other food, yet in a short time, none other was allowed, and on this they continued in as good condition apparently as when fed on other food. They were kept up until about the middle or last of May, and then turned out to pasture.

With respect to the quantity which a hand can cut and bring home, we have found three cords to be an easy day's work. He should be provided with a short bramble-scythe, and a small, narrow flat, or canoe, sufficiently large to hold his day's work. The flat

cur on their plantations when rice-flour is made use of. It is given to their horses and mules in most cases, without restriction as to quantity, and the boy who has them in charge very often gives as much at one meal as ought to suffice for the whole day. As this food, when fresh, is much liked by all animals, horses and mules are induced to over eat themselves, and being carried out to work, and driven as usual, founder, as a natural consequence, ensues. This seldom or never happens when oats or corn is allowed, because being more expensive articles of food, and having to be bought, or being raised in moderate quantities on the place, a regular quantity only is allowed to each animal, and this merely what is sufficient—but allow the same free use of these, and would not the same occurrences take place? Let rice-flour be given in moderate quantities (never exceeding a half bushel a day) and no ill consequences will follow.

can be made large enough for two hands, but more ought not to be employed together, nor ought large flats to be used. In either of these cases, it becomes more difficult to obtain the prescribed quantity.

But allowing all of these benefits to arise from the use of marsh, yet there is another objection to be got rid of, and that a very serious one. It is known to every one who has resided on the sea-board, that, if a cow eats of marsh even in a very small quantity, the taste of the marsh is immediately communicated to the milk, and this becomes so disagreeable that nothing but necessity will compel any one to use it.—It has hence been reasonably supposed that the milk is rendered totally unfit for any purpose. Not so. For tea or coffee, or any thing where all the constituent parts of the milk are required, it will be found too disagreeable for use, but for manufacturing butter or cheese, it is very little (if at all) inferior to milk procured from cows which have been running at large. In this we speak from experience;—not of one year but of several. Our discovery was accidental, and we therefore merit very little credit for it, for as we knew that turnips and cabbages imparted an ill flavour to milk and butter, we concluded that marsh had the same effect, and our inquiry was not therefore directed to ascertain whether this was true or not.

The first experiment we made to ascertain whether cattle could be sustained on marsh alone, was on three milch cows, which were at the time in full milking. We directed that the milk should be kept separate from that obtained from the other cows, and we were particular in seeing our directions executed. The cream at the proper time was also collected and kept separate. At the time we had no intention of making further use of them, but thought it would be as well, that the regular operations of the dairy should not be deviated from. After collecting a considerable quantity of the cream we had it churned, and to our surprise on tasting the butter found nothing unpleasant in it. So unexpected an event was not lost on us, we tried it again and again, and still with the same success. Thinking, however, that we might deceive ourselves into believing what we wished, (though at first the result was unexpected to us) we submitted butter made from cows fed on marsh only, to three gentlemen, whom we knew to be particular in this respect, informing them before tasting it, from what it was made. Two declared that they perceived no difference between it and such as they were in the habit of purchasing in market. The third thought he perceived some little peculiarity of taste, but at the same time acknowledged, that it might be conceit in him, and had he not been informed of it, he doubted whether he would have noticed any thing peculiar in its taste. We have since communicated these facts to several of our friends, and we know that butter made from cows fed on marsh has been as readily sold in our city as any other. Our experiments did not rest here, but we proceeded to ascertain whether cheese made from such milk would also be free from all disagreeable flavour. We accordingly had several made, and found that although the curd was not altogether free from the taste peculiar to marsh milk, yet it was so slight as not to be disagreeable. We did not at the time taste the whey, or if we did, we are not now sure of the fact, but it is our impression that whatever it is in the marsh that produces the peculiar taste, it is absorbed by the whey, and that neither the cream or curd partakes of it. If we are correct in this impression, the flavour being preserved in the cheese made from marsh milk, may be accounted for, from the presence of some of the whey, which remained in the cheese notwithstanding all of the pressure used. If so, a remedy may be found out, and this difficulty removed.

But there is another use to which marsh can be applied, and to which we have already alluded. It is cutting and curing it in summer for the use of stock during winter. This is easily done, and we assure our readers will prove a real acquisition. It should,

however, be cut in the spring or early in the summer, whilst it is still young and tender. If it is delayed until late, one half at least will be good for nothing. Being too hard and woody to be eaten by the cattle, it will be trampled under feet, in which case, although the stock of manure may be increased, yet the object for which it was cut will be but partially obtained. As many hands as can be spared for this work should be set at it as early as the season will admit, and as each ought to cut from two to three cords per diem, a large quantity will soon be collected. As soon as it is brought ashore, it should be corded to ascertain whether the full quantity has been cut, after which, (or the next day) it may either be spread on the spot, or what is preferable carted to the stack-yard and there spread. It soon dries, and being porous, it may be put up sooner than most persons would think proper, in fact, in very dry seasons, we prefer curing it in small cocks, which we think better: in which case the marsh is of a handsome yellowish brown instead of the dark dead colour it always has when fully exposed to the rays of the sun. This, however, must not be done in rainy seasons. It should then be, if possible, perfectly dried before it is put up. We at first lost many stacks before we discovered our error. As soon as it is sufficiently dry, it may be placed in stacks, or in long ricks, made, however, as high as possible, and with a good sloping roof. Some care must be taken in putting it up, for unless this be attended to, the rain will be admitted, and the centre will be found rotten. This can be easily avoided with a little care, and such negligence would deserve such a recompense. It will be much better, however, if it can be housed, as it will keep better, and there will be no danger of its rotting. In its dried state, we do not think it will answer to feed cattle on alone, but with the addition of cotton seed, rice-flour, or turnips, cattle may be made to improve and even be fattened on it, though in such a case we would recommend that some other dry food be substituted for the marsh, near the time the animal is to be slaughtered, as the flesh of an animal fed on marsh is always disagreeable.

What we have stated in this article can be tested by many of our readers at once, and we shall be happy to receive an account from any one who has either tried it, or may be induced to do so. Our principal object in taking up this subject now, is to call the attention of our planters more to its value than has hitherto been done.

We cannot quit the subject without giving the credit of having first used the cured marsh for cattle during the winter to the gentleman to whom it properly belongs. We believe that Mr. James Cuthbert is entitled to this merit. It was from him, at any rate, we received our first hint, and we have practised on it, for many years, with much benefit to our cattle.

PLANTING CORN.

MR. SMITH: *White Oak Flat, Ohio, April 27, 1832.*

I observed in your paper of the 13th inst. some agreements on my essay upon the cultivation of corn. I agree with the writer, that there is but one proper method to be pursued with this grain; but to ascertain this is the difficulty—that it is so easy as he supposes, the various opinions entertained on the subject, and the different modes pursued, seem to render rather doubtful. That I have fallen deeply into either error pointed out by him, I am not disposed so readily to admit; certain it is that I have not followed those around me, neither are my opinions altogether new and theoretical. The gentleman objects principally to deep planting, and points out several evils, which he supposes to arise from the practice. But even did they exist, they are, in my opinion, more than over balanced by the advantages gained by it.

With regard to the degree of heat enjoyed by deep and shallow planted corn, the difference is not, I

think, so great as he supposes. The furrows being opened, the heat soon penetrates to the bottom, being increased by reflection from the sides; and I have often observed that hollow places are warmer than elevated or even level surfaces. Corn deeply planted, but lightly covered, (not more than two inches depth of earth at most) come up, I believe, as soon as that planted near the surface. If the structure of the corn plant be examined, it will be found to throw out but few perpendicular roots, but to depend chiefly on lateral or horizontal ones. By deep planting the number of these is increased, as successive courses of them will spring out as high as the surface of the ground. Of this many shallow planters seem to be aware, and endeavour to produce the same effect by ridging up the earth around the plants, thus throwing off the water and depriving them of that moisture they so much require. What was said of preserving a level surface, was chiefly directed against this practice. A level surface is also necessary to enable the roots to spread properly without meeting with any deep furrows, thus exposing them to the heat of the sun or other external injury, or forcing them to leave the soil whence their chief support is derived and descend perpendicularly, where, in ordinary soils, they must soon meet with hard and inert earth. It also prevents the strength of any decaying substances, which may be in the ground, from escaping. The allusion to corn growing in the finishing furrows I consider unfair, the soil being nearly all thrown out of them, they certainly will not produce so much. As to the plants being injured by water I think there is little danger; the ground being well ploughed will, except in very wet soils, absorb the rain which usually falls at this season of the year.

The principal objections to deep ploughing, when corn is young, are, that the harrow answers a better purpose, and there is danger of burying, and thus injuring the young plants. The use of the plough being to destroy the weeds, to prevent the formation of a crust, and supply fresh earth to draw around the plants, I consider that it is unnecessary for it to run deep where the ground was thoroughly broken up before planting. The number of ploughings should be regulated by circumstances; some soils, and perhaps some seasons, requiring more than others.

But economy being necessary to every farmer, it should always be considered whether the increase of product will repay an extra operation.

Be this as it may, I believe that corn on the above plan will require less culture, than on the shallow ploughing, shallow planting system.

I have thus, sir, thrown together some remarks in reply to Conservator; the propriety of which can best be decided by experienced cultivators. Being but young and rather inexperienced, if I am wrong I should wish to be corrected. Sorry should I be if any were led astray by the suggestions of

A WESTERN FARMER.

(From the Southern Agriculturist.)

ROOT POTATOES.

Account of an experiment in growing the Root Potato, and preserving Potatoes in cellars during the winter.

MR. EDITOR:

March 17, 1832.

I promised you to offer, at a fit and convenient opportunity, my experience upon the failure of an experiment made on sweet potatoes, planted early, and without previously, as is usual, forming a bed for their growth, &c. Feb. 18, 1831, about one task of red sweet potatoes were planted whole as follows:—a furrow was first made by the plough, in which was strewed a bed of pine-trash, on this were placed the potatoes which were covered with stable manure, and finally covered with earth by running another furrow near them, the land was high and warm. In April, the crop of potatoes planted 24th March, and

in the usual way on beds, were as forward in coming up, as the former were which had been planted five weeks earlier and on the level. July 21, we commenced eating those in beds at the rate of three pecks to the bed; at the same time those planted on the level did not produce as much as the seed it took to plant them. In October, those on the level were as productive and large as those in the beds; both crops were suffered to remain in the field during the winter; they equally rotted to great waste in January. The level planting grew about four to six inches under ground, the other did not grow deeper than the natural surface of the land or base of the bed. I double-banked over a task of the bedded potatoes, previous to severe weather, these rotted if any thing more rapidly than those let alone.

Root potatoes are liable to great, if not total loss, after November, whether left in the bed in the field; gathered and placed as slips in banks, or housed in cellars. The only remedy for the failure of this most useful winter provision, may be found in that with which I have succeeded to my greatest satisfaction this winter, in preserving slip potatoes; I did not know it in time or would have tried the experiment with the roots in preference to risking them in the field.—A cellar is to be made with puncheons, &c. in the usual way, and commenced early in October, this allows time for green wood to dry and dampness to escape; about a fortnight previous to gathering in the slips, some useless hand should take possession, and a moderate smoke be kept up day and night; this smoke to be continued in the same way during the whole period of filling the cellar with the crop. The cellar should front south where the door will be placed in the centre, thus affording, however, full entry between the two large bulks, wherein a small smoke not larger than that produced by a pipe or segar may be kept up day and night till the provisions are consumed—not in the usual way, mostly by rot, but as sweet and wholesome food. After the cellar is filled or the gathering of the crop finished, the door may be kept open in mild weather in the day, and shut at night. The hand can leave the cellar as soon as you commence filling; the smoke fed morning and evening will be sufficient. The upper part of the cellar should be slightly left open the whole length of the top, and covered with two boards nailed together as the ridge boards of a house, which are to be raised sufficiently from the top to permit the steam to escape, and, at the same time, prevent the intrusion of rain, &c.; the top to be closed up as soon as severe cold threatens. The smoke insinuates itself between every potato to the most distant corner of the cellar. The potatoes become dry and sweet as is as usual when thus preserved in negro houses.

By this means, sir, I have been enabled to preserve my crop of red potatoes at two plantations, scarcely losing ten baskets out of nearly three thousand.—Whilst at another, where I had been unable to apply this remedy in sufficient time, cart loads of reds, and yams, were thrown out previous to my arrival, but then, in carefully selecting the rotten and half decayed, and applying the smoke, the rest have been saved, and are now as sound as the day they were dug; in one instance I had a long hill, out of which half only were sorted as sound, put in an open board house, where they would certainly have rotted this severe winter, but for the constant smoke, produced not more than one basket out of four or five hundred that were put in sound. It is true, the potato is more apt to sprout at this season, but this is not as bad as to rot, and I find that the sprout is not as injurious as where it proceeds from moisture; the potato retains its dry nutritious sweetness, being acted upon only by warmth. I would advise those who try this experiment, by no means to suffer a flame or hot fire to take the place of smoke; the fire will heat and may injure to a certain circumference, and to the distant sections of the cellar be a benefit if not an injury.—The smoke, on the contrary, will be general in its ef-

fects, producing a mild and equal temperature throughout the cellar, and at the same time excluding the outward changes of the weather and drying up dampness.

I must, in conclusion, sir, state, that this remedy is by no means my own invention. Having been politely invited by a planter in St. Paul's to look into his cellar, I was struck at once with the beautiful state of preservation his potatoes presented. I inquired the method he pursued. Pointing to the magic circle beneath our feet, he said, "a small smoke you see there kept up day and night has saved my potatoes every year, whilst my neighbours have frequently lost their whole crops by neglecting to pursue the same plan." Since my knowledge of this advantage, I find many others have been in the possession of what I deem very important for the cultivators of the sweet potato generally to know.

AN EXOTIC.

(From the Scottsville Aurora.)

AGRICULTURE IN VIRGINIA.

What is the present system of agriculture in Virginia, or has she any? This is an important question and the answer involves more than any other, the interest of our state. That Virginia should be an agricultural state, and distinguished greatly in this respect is obvious. For no country in the world has nature done so much. When Virginia was discovered, we found it remarkable for the great richness of its soil, and better watered than any other state in the union. The contrast between what it was then, and what it is now, must forcibly strike every one—her exports it is true have been great, but it was at the expense of the very life of her soil. Virginia's situation now reminds one of the goose that laid the golden egg; or of the man who cut down the grape vine to get at the grapes.

It must be obvious to every one, that there is some radical evil which has produced these dreadful results to Virginia. And this evil is, in not at an early date adopting a system of *restoration*. The object of the farmer has been to make his land yield as much as it would—he has cut down field after field, and thereby a continual system of working have worn them out; they are then "turned out," and soon assume the Virginia term of "old field;" these soon become clad with pine, as the greater part of lower Virginia is. The wretched practice of employing overseers, the most worthless class of our community, is another evil. The carelessness of the owners of the land, is a good argument for the overseer to make what he can. And he does it with a vengeance. They generally have a part of the crop, and to make that crop as large as they can, they cultivate as often as they can, thereby exhausting the land in a few years—after it is well worn out, they leave it to the wretched owner and go to prey upon some one else. The farmer, however, must support his negroes, and to do that he must continue to work his poor land, and work it they do until it will not raise a "nubend," (Virginia term,) or a corn stalk as large as a pipe stem.

The cultivation of tobacco is another cause of the impoverishment of our lands. The good price obtained for this article, caused forgetfulness to come over the farmer, that with his tobacco, according to his system of cultivation, he was selling his land. Now all Virginia wants, is to have her attention fully awakened on the subject of a better system of agriculture—and that is a *system of restoration of our land*. And to do this, the following summary must be at once attended to—cultivate less tobacco—enrich your lands, and you will then make more in a few years, from the same field, by a judicious cultivation of this article, than you can from the present lands in a number of years. Enclose your fields—this should be the first care. It is said that land has a natural tendency to restore itself, and this it can only

do by enclosing it—stock is kept off, grass is permitted to grow. Cultivate artificial grasses—a great variety will flourish in Virginia, it at once serves the purpose of hay and manure. Soil your cattle, they should never graze on the field you cultivate—all the grass which springs up in the field should be suffered to remain; nature furnished this to enrich the lands. Use every method to make manure—raise as many esculents as you can—turnips, beets, potatoes—and stop cutting down your woodland. You will want it in time to come. Plant hedges—wherever you have rocks make stone fences, they will last several centuries. And last not least—get rid of as many of your slaves as can be sent off—this is the most important consideration: they eat and destroy in some way or other all you make, and you merely undergo the trouble of attending to them, and receive nothing; while you have them, you cannot improve your lands as you could without them—they must eat—they will be sick—you must pay the doctor's bill—you must buy clothing. Employ white labour, where you encourage white labourers, and they will come amongst us; there are hundreds of industrious white men, who would perform twice the labour of your slaves for moderate wages, if there could be a different state of things. Encourage all inventions to lessen manual labour, this will be one of the means of getting rid of your slaves, it will stop the emigration of the whites and increase the ingress of them. This is an important consideration; the whites are constantly leaving Virginia, for the rich lands of the west, and the slaves are remaining to eat up the bread. Give this deep consideration—these hints are thrown out by one born and raised in Virginia, and who means to stick to her.—With your permission, Messrs. Editors, he will drop frequent hints on this subject. He calls upon all to come up to the help of the state.

OLD DOMINION.

TOP DRESSING.

Lime, air slaked and well pulverized, is said to be useful as a top dressing in spring, for winter grain. Ashes, too, either leached or dry, are very usefully applied about this time, to grain or grass. Dry unleached ashes are best for manure, but leached ashes, particularly soap's waste, which has lime mixed with it, are of use to accelerate and strengthen useful vegetation.

HORTICULTURE.

(From the Library of Useful Knowledge.)

PLANTING.

CHAPTER VIII.

Enumeration of the different species of Forest Trees.
(Continued from page 70.)

AMYGDALINE. Nat. Sys.

Eng. Name. Bot. Name.
ALMOND-TREE. AMYGDALUS.

Icosandria Monogynia. Linn.

Calyx, five-cleft, inferior; *petals*, five; *seed*, a nut, oval-shaped, compressed, acute, with prominent sutures on each side, netted in four rows and dotted, enclosed in a villous or woolly down.

Time of sowing seed—Autumn; cover with light dry earth, three inches deep. *Soil*—A sandy loam, in a sheltered situation. *Uses*—Gay and ornamental flowers in the spring; the naked seed of the almond, properly so called, yields an essential oil, and, by trituration, forms an emulsion, or cooling beverage, much used.

The naked seed or almond of the *Amygdalus amara* affords an oil of similar properties to that of the *Amygdalus communis*, but the bitter principle contained in the farinaceous part of the seed is deleterious, containing prussic acid.

Species for Ornament, &c.

ALMOND-TREE.	AMYGDALUS.	Native of	Ft.
Sweet almond	<i>communis</i>	Barbary	18
Bitter almond	<i>amara</i>	—	—
Double blossomed	<i> flore pleno</i> } (<i>Persica</i>)	Persia	—
Chinese	<i>coccinichinensis</i>	China	—

POMACEÆ. Nat. Sys.

MESFILUS. MESFILUS.

Icosandria Di-pentagynia. Linn.

Calyx, five-cleft; *petals*, five; *berry*, inferior; *seeds*, five, bone-like, enclosed in a globular berry.

Time of sowing the seed—autumn, or as soon as ripe. *Soil*—a rich loam; but it will succeed in any description of soil free from the extremes of moisture and dryness. *Uses*—for its ornamental habit of growth and its fruit.

Species for Ornament, &c.

MESFILUS.	MESFILUS.	England	12
Medlar, common	<i>Germánica stricta</i>	—	—
Var. Uppt. medlar	<i>stricta</i>	—	—
„ Dutch	<i>diffusa</i>	—	—
Quince-leaved mes-	<i>tomentosa</i> }	—	—
philus		—	—
Tansy-leaved haw-	<i>tanacetifolia</i>	Greece	12
thorn		—	—
Large-flowered	<i>grandiflora</i>	S. Europe	—
mesphilus		—	—
Eng. Name.	Bot. Name.	—	—
PEAR TREE.	PYRUS.	—	—

Calyx, five-cleft; *petals*, five; *seeds*, several, oblong, blunt, acuminate at the base, convex on one side, flat on the other, enclosed in a pome or apple, fleshy, with five membranous cells.

Time of sowing the seed—Spring: preserve the seed during winter in dry sand. *Soil*—rich clayey loam, but also on gravelly and chalky soils on elevated, exposed situations. *Uses*—for underwood, ornamental blossoms and fruit: the white beam (pyrus aria), however, is considered by some to rank as a timber-tree, the wood, tough and hard, is sometimes used for axle-trees, handles of tools, &c. The wood of the wild service-tree (torninalis) is likewise applied to the same purposes, and its fruit is frequently brought to market.

Species for Ornament, &c.

PEAR-TREE.	PYRUS.	Native of	Ft.
Arbutus-leaved	<i>arbutifol</i>	Virginia	—
Var. Red-fruited ar-	<i>rubra</i>	—	—
batus-leaved		—	—
„ White-fruited	<i>alba</i>	—	—
arbutus-leaved		—	—
„ Black-fruited	<i>nigra</i>	—	—
arbutus-leaved		—	—
Snowy	<i>nivalis</i>	Austria	—
Wild pear-tree	<i>communis</i>	England	—
Woolly-leaved	<i>puberula</i>	Germany	—
Crabb-tree	<i>malus</i>	Britain	—
Chinese apple	<i>speciosissima</i>	China	—
Siberian crab	<i>prunifolia</i>	Siberia	—
Small-fruited crab	<i>baccata</i>	—	—
Sweet-scented crab	<i>coranaria</i>	Virginia	—
Narrow-lyd. crab	<i>angustifolia</i>	N. Amer.	—
Com. quince-tree	<i>cydonia</i>	Austria	—
Willow-lyd. crab	<i>salicifolia</i>	Levant	—
White beam-tree	<i>aria</i>	Britain	30
Swedish do.	<i>intermedia</i>	Sweden	—
Wild service pear-	<i>torninalis</i>	Eng.	30—40
tree		—	—

AMELANCHIER. AMELANCHIER.

Icosandria Pentagynia. Linn.

Snowy Amelanchier. *botryophnum.* N. Amer.

CRATEGUS.

Calyx, five-cleft; *berry*, inferior; *seeds*, two, round-

ish, umbellicated, body somewhat long, distinct, cartilaginous.

Time of sowing seed.—Autumn. Soil—will succeed in almost any kind of soil of intermediate quality as to moisture and dryness: the most ornamental and useful of the species are the varieties of the common hawthorn (*oxyacantha*), the Glastonbury is remarkable for the season of the year in which it comes into flower, which is usually in January or February, and sometimes at Christmas, according to the state of the weather then, and of that during the previous summer and autumn. The wood of the common Hawthorn is hard and tough, and is esteemed for axle-trees, handles of tools, &c. When planted singly it is not unfrequently rises to 20 or even 30 feet in height; and we have measured stems of individual trees of this species, varying from 3 to 7 feet in circumference. The merits of this and the interesting species and varieties mentioned below, for ornament in park scenery, come more properly for discussion under the second division of the subject of Planting, proposed in the introduction to this treatise; but though their value, in an economical point of view, has not yet been determined, their natural habits and growth offer matter well worthy the attention and investigation of the forest-planter, and they are therefore here enumerated. *Uses*.—The common hawthorn, it is well known, is used for making quick or live fences. It is of great importance to have the plant strong and large before finally planting it in the hedge-row.—This plant delights in a deep soil, and where it is not naturally such, its depth ought to be increased. When the plants or quicks are large, they produce a fence in a short space of time, and save much expense in weeding, nursing, and temporary fencing.

Species for Ornament, &c.

CRATEGUS.	Native of Ft.
Great American <i>scratagus coc-</i>	N. Amer.
hawthorn <i>cinea.</i>	
Maple-leaved <i>—cordata</i>	—
Pear-leaved <i>—pyrifolia</i>	—
Oval-leaved <i>—elliptica</i>	—
Hollow-leaved <i>—glandulosa</i>	—
Yellow-berried <i>—lutea</i>	—
Gooseberry-leaved <i>—parvifolia</i>	—
Great red-fruited <i>—punctata</i>	—
Var. Yellow-fruited <i>—lutea</i>	—
Common cockspur <i>—crusgalli</i>	—
Var. Pyracantha <i>—pyracanthi-</i>	
leaved <i>—fida</i>	—
Willow-leaved <i>—salicifolia</i>	—
White thorn <i>—oxyacantha</i>	Britain
Var. Common <i>—vulgaris</i>	—
Var. Great-fruited <i>—major</i>	—
„ Glastonbury <i>—præcox</i>	—
„ Dbl.-flowered <i>—plena</i>	—
Yellow-berried <i>—lutea</i>	—
Parsley-leaved <i>—azarolus</i>	S. Europe
Elegant red <i>—elegans</i>	—
Sweet-scented <i>—odoratissima</i>	Crimea
Woolly-fruited <i>—eriocarpa</i>	Britain
Sloe-leaved <i>—prunifolia</i>	N. Amer.
Cut-leaved <i>—dissecta</i>	Persia
Comb shaped <i>—pectinata</i>	—
Frosted <i>—pruinosa</i>	—
Crimson <i>—punicea</i>	Dahuria
Black-berried <i>—melanocarpa</i>	Tauria

OLENÆ. Nat. Sys.

Eng. Name.	Bot. Name.
ASH-TREE	FRAXINUS.

Polyanthia Diæcia. Linn.

BISexual. MALE FLOWER.—*calyx*, none, or a four-parted perianth; *corolla*, none, or four petals; *stamina*, two; *pistil*, one; *capsule*, one-seeded, terminated by a spear-shaped membranous wing. FEMALE FLOWER.—*calyx*, none, or a four-parted perianth; *corolla*,

none, or four petals; *pistil*, one; *capsule* and *seed*, the same as in the bisexual flower.

Time of sowing the seed.—Autumn, as soon as ripe, or dry the seed in a cool airy loft, and preserve them in sand during the winter; and then in April sow them on beds of fresh mellow soil; the plants will appear in the following spring; but if sown in the autumn as soon as ripe, most of the plants will appear in the same season.

Soil.—Clayey loam brings the ash to the greatest perfection, but it will grow on every description of soil. Evelyn mentions an ash-tree of 132 feet in height, and Young, in his Irish Tour, states the length of an ash, at thirty-five years' growth, to be 70 feet.

Uses.—This wood is hard and tough, and much esteemed for implements of husbandry, and also for the purposes of the coach-maker, cooper, turner, &c. It makes a profitable kind of underwood, and may be cut every eight years for hoops, and every fourteen years for hop-poles, &c. It is said that the leaves, when eaten by oows, give the butter which is made of their milk a rank taste; but, however, in the spring, and towards autumn, has frequently a rank taste, when the cows yielding it are completely out of the reach of leaves of any kind of forest trees whatsoever. When planted in hedge-rows, the ash is apt to impoverish the soil around it in a greater degree than most other trees. This tree is by many considered to stand next in value to the oak. It is mentioned as such by the oldest writers. Where pollard trees are permitted, the ash makes one of the most profitable. Dr. Withering states, that a decoction of two drachms of the bark has been used to cure agues. The Manna Ash, *Fraxinus rotundifolia*, in England seldom attains to more than 20 feet in height; the leaflets are shorter, of a deeper green color, and more deeply serrated on the margins than those of the common ash. It is a native of Italy, and is most abundant in Calabria, where it grows spontaneously on the lower parts of the mountains. This tree affords the well known medicinal laxative substance termed *manna*. It is obtained by making a horizontal incision in the stem of the tree towards the end of July. The fluid gum is received into cups formed of the leaves of the maple, and conducted into them by the foot-stalks of the leaf, or by straws inserted into the incisions. The manna continues to exude from the wounds of the bole for about a month after the incision it first made. The comparative merits and value of the other foreign species of ash mentioned below, remain yet to be proved by the British forester; and we shall here, therefore, only observe, that the white ash of North America, among those enumerated below, is the only species that at present is considered to approximate to, and rival the common ash in value. In New Brunswick and Canada it most abounds, and is most multiplied in the United States, north of the river Hudson. Its most favorable sites are the banks of rivers and the edges and surrounding acclivities of swamps; it there sometimes attains to eighty feet in height.

Timber or Forest Species.

ASH-TREE	FRAXINUS.	Native of Ft.
Common	<i>excehlor</i>	Britain 70
Entire-leaved	<i>simplicifolia</i>	— 30
White American	<i>americana</i>	N. Amer. 40
Var. Black do.	<i>pubescens</i>	— —
„ Red do.	<i>rubra</i>	— —

Species for Ornament, &c.

Weeping	<i>exceh. pendula</i>	Britain 70
Horizontal	<i>„ horizontalis</i>	— —
Erose-leaved	<i>„ erosa</i>	— —
Striped bark	<i>„ striata</i>	— 30
Walnut-leaved	<i>juglandifolia</i>	— —
Aleppo	<i>lentiscifolia</i>	Aleppo —
Flowering	<i>ornus</i>	Italy —
Many-flowered	<i>floribunda</i>	Nepaul —
Manna	<i>rotundifolia</i>	Italy —
Cloth-leaved	<i>pinnata</i>	N. Amer. —

Four-sided	<i>quadrangulata</i>	—
Flat-seeded	<i>platycarpa</i>	—
Long-leaved	<i>longifolia</i>	—
Red-veined	<i>rubicunda</i>	—
Cinereous	<i>viridis</i>	—
Grey-branched	<i>cinerea</i>	—
Richards'	<i>alba</i>	—
Sharp-leaved	<i>Richardi</i>	—
Elder-leaved	<i>oxycarpa</i>	—
Silver-leaved	<i>sambueifolia</i>	N. Amer.
Elliptic-leaved	<i>argentea</i>	Corsica
Oval-leaved	<i>elliptica</i>	N. Amer.
Mexican	<i>ovata</i>	—
Dotted-stalked	<i>mexicana</i>	Mexico
Red-veined	<i>capitata</i>	N. Amer.
Powdered	<i>rubicunda</i>	—
Mixed	<i>pulverulenta</i>	—
Expanded	<i>mizta</i>	—
	<i>expansa</i>	—

ELÆAGNEÆ. Nat. Sys.

Eng. Name.	Bot. Name.
OLEASTER-TREE.	ELÆAGNUS.

Tetrandria Monogymia. Linn.

Calyx, four-cleft, bell shaped; *corolla*, none; *drupe*, inferior; *seed*, a nut, oblong, obtuse.

Time of sowing seed.—Autumn: may be sown in pots or propagated by layers. Soil—A sandy loam is what it affects most. *Uses*.—It is admired for the fragrance of its foliage. The comparative value of its wood has not yet been proved.

Species for Ornament, &c.

OLEASTER-TREE.	ELÆAGNUS.	Native of Ft.
Narrow-leaved	<i>angustifolia</i>	S. Europe 18

(To be continued.)

(From the Genesee Farmer.)

CULTURE OF THE GRAPE.

We have received the following communication from our much respected friend, SOLOMON SOUTHWICK, Esq. of Albany, who informs us that it was one among others intended for the Plough Boy, but which was left unpublished when that valuable paper was discontinued for want of patronage.

Saratoga Springs, 22d Feb. 1821.

Sir—The success I have had in raising grapes in this northern climate has induced me to send a copy of the enclosed letter to a lady in Westchester, who suggested a wish to be acquainted with my method of cultivating the vine. As I am desirous that the culture of that elegant fruit should become more general, I have enclosed the letter to you for publication in the Plough Boy, should you think it would be conducive to the interests of Agriculture.

With respect, sir, I am your obedt. servt.

HENRY WALTON.

Saratoga Springs, 19th Feb. 1821.

Madam—As the time approaches for trimming grape vines in the spring, I will no longer delay sending you an account of the method I have pursued in cultivating those in my garden. My experiments have been made at a distance from the seacoast, but I believe that the mode I have adopted will ensure you as abundant a crop of fruit in Westchester, as I usually have had in Saratoga.

I will describe my management of a vine from the first year, or when the scion is planted, until it shall be four years old; after which time, you must be regulated by the strength and situation of the plant, which may induce you to adopt such differences in the mode of pruning and training as circumstances may suggest. The general rules, however, for pruning and training, given for the first year, may be pursued under any situation in which the vine may be placed.

During the first year, I permit the plant to grow with all its branches and limbs; by which means the roots become very much strengthened and increased.

In the autumn, as late as possible, I bury all those branches, as well as the old scion, under an inch or two of clean garden mold. Should they be buried even six or eight inches deep, they will not be injured. From the experience I have had, I give a decided preference to burying vines with clean mold. Any other substance, such as straw, matting, or litter, frequently becomes mouldy or heated, which has a very deleterious effect upon the plant. The objects of burying, are to place the vine out of the drying operations of the winter's frosts, and that the frosts which may penetrate the wood may be gradually extracted. These, I find better effected by mold than by any other substance.

On unburying the vine in the second spring, you trim off all the smaller shoots, leaving one or two of the strongest, with two or three eyes on each. From the product of those eyes you select the strongest shoot in the beginning of the succeeding summer, and rub off the others. The one thus selected must be tied to stakes in as straight a direction as possible, which will increase its growth. It must also be kept clean of false wood, or those shoots which spring up between the main shoot and the foot stalk of the leaf; which, if permitted to remain, will very much check the growth of the main shoot. This latter operation ought to be performed frequently, that the false wood may not become so hard as not to be easily separated by a pressure of the finger and thumb. Should the trimming be made while the false wood is still tender, and not exceeding eight inches in length, the wounds will heal immediately, and the bud, close to which it grows, which is to bear fruit the next summer, will not be injured. From this main shoot, thus trained and trimmed, you may calculate on a little fruit the next season. In the autumn you may bury the vine as in the preceding year.

In the third spring you unbury the vine and cut the last year's shoot down to where the wood is perfectly alive, leaving as many eyes as possible. After having placed stakes near the root of the vine in a straight line, the last year's shoot is to be tied to them. This method of training I have adopted from the recommendation of Forsyth, who has written a very valuable treatise on the culture of fruit trees and of the vine in England. On his method of cultivating that plant, I have pursued all my experiments. The only differences in our methods are those which arise from the greater heat of our summers, and the necessity of burying our vines in the winter. The first case renders more shade requisite for the ripening the fruit than he proposes, and the second induces the gardener, for convenience, to keep his plants as low as possible. After the vine is fixed to the stakes and sends forth its shoots, you must select two or three of the strongest of them as bearers for the next year; and those ought to be trained in a straight line and kept clean of false wood. The other shoots should also be kept clean of false wood, but there ought to be left a sufficient quantity of leaves and young shoots, and when necessary some false wood, to form a natural canopy over the fruit which will protect it from the scorching heat of the sun. I have therefore deviated from the course recommended by Forsyth for trimming the vines in summer, after the fruit has attained the size of peas. I seldom trim them unless the shoots are low or unproductive, and not conducive to the formation of my canopy. In the autumn, the old wood, which has borne fruit the last summer, must be cut down near the places from whence the new bearing wood has shot out, and the plant buried as before.

The treatment of the vine in the fourth year will be similar to the last. It often happens that the lower shoots will not be sufficiently strong to be made the bearers for the succeeding year; in which case some of the upper ones should be selected for that purpose, and in the fall trimming, a few eyes should be preserved on some of the lower shoots, for the purpose of obtaining strong shoots as near the root as possible, for the next year's bearing. In case of success, the old wood must

be cut out to the new strong shoots. As the vine, in case it be well cultivated, will increase in strength with its age, the number of bearing shoots may be augmented annually. I have had six bearing shoots on a vine of six years' old, each shoot having about twenty eyes. I think, however, that in case there are twenty or thirty eyes on each shoot, that the number of shoots ought not to exceed eight or ten. In the autumnal trimming, I do not cut close down to the new shoots, but leave five or six inches of wood to be cut off in the spring, as I have discovered that the burying the wood, where a new incision is made, is very apt to cause a defect for a little distance in the wood. The only inconvenience arising from the spring trimming is, the bleeding of the vine. Some people suppose it injurious, but I am sensible that its bad effects are by no means equal to those resulting from a close trimming in autumn, when you are obliged to bury the plant.

The shoots which are intended for bearers for the succeeding year, should be kept, while growing, separated from other plants or branches, in order that they may receive as much air and sun as possible, and thus be ripened and made hard before they are buried, for it is only those parts which are perfectly ripe that will survive the winter.

(From the Genesee Farmer.)

PRINCE'S POMOLOGICAL MANUAL.

PART II.

We have received per mail this continuation of the labours of this Horticultural family.

In the preparatory remarks, the author observes that it has been "found impossible to comprise descriptions of all the valuable varieties of fruits within the limits of the two volumes, more particularly, as the varieties of apples alone would occupy nearly or quite an entire volume of the present size. It has been deemed the best course to concentrate, in the first and second volumes, as great a variety as possible of the other classes of fruits, leaving the apples to form an after volume, which will contain in addition thereto, the descriptions of other classes of fruits not comprised in the two first volumes, as well as some additional varieties of the classes previously noticed."

That we have heretofore been very deficient in common place pomological works, all must allow, and we sincerely hope that the author will receive such acknowledgments for his past services, as will encourage him to persevere, until he shall have described all of our most valuable fruits with such precision as to put an end to the present confusion of names which exists to the no small annoyance of every young horticulturist.

Many persons will be disappointed in not finding the description of apples included in the second volume; but when we consider that apples in this section are of more importance than almost any other one species of fruit, and that at this time there appears to be more attention paid to their cultivation than at any former period, which, taken in connection with the present attempt to establish Agricultural and Horticultural Societies through the state, we think the author has done wisely in deferring for the present that important part of his intended work, feeling confident that he will receive during the coming season much useful information from these auxiliaries; and we hope orchardists generally will feel it a duty incumbent on them to make very particular observation with regard to such valuable new varieties as may be found, or are known to be growing, in their immediate neighbourhoods. Should this be the case, and all the valuable varieties which may be found growing only in Western New-York described, the author's prediction will be fulfilled—"they will fill a volume."

The 26 first pages of the present volume are taken up with a continuation of the description of peaches,

most of which are minutely described, and will be found highly useful to those who are wishing to select from nurseries, as well as for those who are wishing to cultivate for themselves.

He has described about two dozen varieties of nectarines, comprehending a choice variety. As this species of fruit is so generally destroyed by the curculio of this section of country, readers will not feel that interest in their cultivation that they would feel they allowed to come to perfection. The tree flourishes equally well with the peach in this vicinity; and should there be found any preventive against the ravages of our common enemy, the fruit would form a great addition to our tables.

The author next goes on to describe plums. He has given descriptions of above one hundred and twenty varieties, some of which have been cultivated under as many as ten or twelve different names—enough to confuse a whole nation of nurserymen. So far as we are acquainted with the varieties, this part of his work does him much credit, as it could not have been made without much observation. We hope many of our Horticulturists will follow the example of D. THOMAS, as mentioned at page 96, and transmit to Mr. PRINCE, from time to time, such new varieties as may come within their knowledge, as by so doing they will secure an honour to themselves, and confer a favour on Mr. PRINCE and their country.

He has given us upwards of one hundred varieties of cherries, with their synonyms; together with the history many of them, by whom they were produced, whether accidental, or by cross breeding, &c. We had our attention drawn to his observations upon the yellow Spanish: "This variety, I believe," says the author, "to be at present extinct, as it is not enumerated in any catalogue of the present day, not even in that of the London Horticultural Society." If this variety, which has formerly been so highly spoken of by horticultural writers, has become extinct, it should be generally known, and although it may not be enumerated in the catalogue of the London Horticultural Society, yet it is retained in most of those of our own country; and trees are yearly sent from the east on orders by that name. Should Mr. Prince be correct on this point, we hope our nurserymen will correct their mistakes. His descriptions of the varieties of this fruit will be of the utmost importance to those who are wishing to make a choice selection for their gardens or orchards, and particularly to those who are intending to cultivate for the market, as he not only designates their colour, fruitfulness of the tree, flavor of the fruit, time of ripening, but also their capability of bearing transportation, &c. Many new varieties are described by him not to be found in old catalogues, some of which are recommended as possessing superior qualities.

Almonds. This fruit is almost wholly unknown as growing in this section, and yet the trees are found equally as hardy as the peach, and are not as likely to be injured at the roots by the grub as the peach tree. He has described some fifteen varieties, differing in the thickness of their shells, as well as flavor of the nut.—Peaches inoculated on almond stocks are said to be more durable than when upon their own. A few of them should be found in every garden.

His assortment of raspberries is as extensive as there is need of, and his descriptions so plain, in most cases, as to enable those who have this fruit growing without correct names, to determine to which variety they belong.

About seventy varieties of strawberries are named and described with precision, and their merits and demerits fairly discussed; and we hope from the knowledge of this plant, and its varieties, which may be gathered from Mr. Prince's works, to see it more generally cultivated, as few varieties of fruit are more universally liked, and none considered as contributing more to health.

Mr. Prince concludes this number with a descrip-

tion of about sixty varieties of pears not enumerated in the first volume; making in all the most extensive variety ever cultivated in this country. Having his own particular description of most varieties of fruit, we may naturally suppose that he will hereafter be very particular in the trees which he shall offer to the public, as any mistake or misrepresentation will be more easily detected than it would have been before we were favored with any standard, with which they could be compared.

We recommend the two numbers of this work to every farmer, gardener or orchardist, as an invaluable addition to whatever stock of knowledge he may possess on this subject, as the sooner it becomes disseminated through our country, the sooner shall we be relieved from the Babel like confusion which at present exists with regard to the names of fruit. We also recommend it to those agricultural or horticultural societies which are organized, or may hereafter be, previous to the publication of his next number, to forward to Mr. Prince specimens and descriptions of such choice varieties of fruit as may come within their knowledge, to enable him to complete a work which no other person in the U. States has ever had the requisite knowledge and enterprise to undertake.

(From the New England Farmer.)

REMEDY FOR DISEASED FRUIT TREES.

MR. FESSENDEN:

Framingham, April, 1832.

I ask leave, through your paper, to communicate to the owners of apple trees, a hint, which may possibly be useful. I observe, that some of my trees which are putting forth leaves, and whose roots appear not to be injured, are nevertheless entirely dead at and near the ground. The tops no doubt will continue alive through a part or all the season, but they must soon die, unless the method which I am about to suggest will save them. It is the same method which some of your readers know, has been adopted to save trees from which mice have eaten the bark near the earth. Five or six years ago, I had an apple tree which had been stripped in that manner, to the height of eight or ten inches; it was about two inches in diameter. At the season of grafting, I took some twigs, four in number, of the proper length, and cut off the ends obliquely, making a suitable angle. One end was inserted under the bark of the root, and the other under that of the body, immediately above the place injured. They were kept in place by a string which was wound round the tree, and the air was excluded by a plentiful application of clay, which was confined in the usual manner. I had not much confidence of success, though I had heard that such things had been done. All the twigs, however, took, and the circulation of the sap through them was sufficient to prevent the tree from being much retarded in its growth. It is now a flourishing tree. The twigs are from three to four inches in diameter; two of them have grown firmly together, and the others will probably do the same the coming season. The stock within has decayed, and given place to another generation. So much for fact; and the incredulous will be cured gratis, if they should pass through this village, and will examine for themselves.

I have no doubt, there are thousands of trees now considered dead, that might be preserved in the same manner. The number of twigs or scions ought to be increased in proportion to the size of the tree. I should recommend that they be small, say one-quarter or three-eighths of an inch in diameter; a larger scion will not easily bend so as to be fitted to its place. It might facilitate the operation, to confine each scion by staples made of wire, before putting on the string, which may be removed before the next season.

If this communication shall be the instrument of calling back to life any deceased favourite in the orchards of your readers, it will give me great pleasure.

Respectfully, your obt. serv't,

JOSIAH ADAMS.

PARSNIPS.

Extracts from the General View of the Agriculture of Hertfordshire, drawn up by order of the Board of Agriculture, by Mr. Arthur Young, its Secretary; printed in 1804; on the subject of Parsnips.

"This plant makes a great figure in the experimental ground of the Marchioness of Salisbury; the crop is good and quite clean. Fattening oxen consume them most advantageously; their benefit thus applied, is so great as to nearly equal, in the opinion of Mr. Stephenson, oil cake. They are consequently excellent for all stock, but superior in fattening bullocks."

N. B.—Under the head of *beets*, Mr. Young adds, "the common red beet and the root of scarcity, are cultivated successfully in the experiment ground of the Marchioness of Salisbury. The former answer greatly in fattening cattle; almost as well as parsnips, and better than carrots."

N. B.—The quantity of *parsnips* under cultivation in the above case, was an acre and a half, and the whole of the experiment ground consisted of seven-teen acres. pp. 115 and 232.

In the second edition of the *General View of the Agriculture of the County of Kent*, by Mr. John Boge, published 1804, we find that *parsnips* sliced and kiln-dried, succeed very well as a sea-store; but by the Board of Admiralty it was decided, that parsnips could not be substituted for any part of the diet of seamen in the British navy; and that in other respects, it was more convenient to serve out *lemon juice* in preference to vegetables, as occupying less room. pp. 227, 233.

RURAL ECONOMY.

(From the Southern Agriculturist.)

SILK.

OBSERVATIONS ON THE RAISING AND MANUFACTURING OF SILK.

DEAR SIR:

"Mount Giff, Feb. 17, 1832.

My daughter has sent you a skein of silk of her raising and manufacture. There is a great deal said and written on the raising and reeling of silk; as far as this business has come under my observation, I think it a simple process, and which can be performed by boys and girls with more dexterity than by grown persons, and in all probability with as much judgment. All business requires attention, and so does the raising of silk, and without application and attention, I say let it alone, for no business is successful without it. My daughter the last summer raised five pounds of cocoons, which she reels and manufactures into sewing silk. The process is performed on a common clock reel, and can be performed by any individual who understands reeling yarn. Put in a tub as many cocoons as you wish the size of the thread to be. Pour warm water over them, take up the ends of each cocoon, embody them, and proceed to reel. If one of the fibres should break, take it up and attach it to the thread; proceed on; but always mind to keep the water warm. This is the mode my daughter pursues to reel her cocoons, and I see no difficulty at all. The only subject, is, would the raising of silk be a profitable business.

Yours, very respectfully,

ABRAHAM GEIGER.

The skein of silk accompanying this letter is really a most beautiful specimen of sewing silk. We have shown it to many ladies of our acquaintance (some of whom are fully capable of judging of such matters) all have admired it much, and some have pronounced it equal to any they have ever seen, some few thought it twisted a little too much. We fully agree with Mr. Geiger, that too much fuss is made about the raising of silk. The process is not difficult, and only requires attention and a little industry.—We have no data, from which we could form an opin-

ion relative to its profitability in the *Southern States*. It appears to us, however, that it cannot prove otherwise, especially while cotton remains at such low prices.—*Ed. So. Agricul.*

[As to the simplicity of raising silk, the above letter and the commentary of the Editor of the *Southern Agriculturist*, are perfectly correct. We have had much experience in the business and can say that the whole process is simple, easily acquired and easily performed. The business would be profitable if mulberry trees were convenient, and the business well conducted—probably more so in the South than any of the present objects of culture.—*Editor J. Farmer.*]

A BARN.

A writer in the *Genesee Farmer* gives the following description of his barn:—"My barn is built in a bank which faces to the south, and is fifty-six feet long by thirty-two wide, standing the end to the south, and not the side, as *Ulmus* directs. It is divided as follows: eighteen feet for bay, eighteen feet for floor, and twenty feet for granary, carriage room, and horse power for threshing machine, which is twenty feet square. The granary is ten by twelve feet square, and the carriage room is ten by twelve feet square. Under the bay and floor is the stabling, with an aisle through the centre eight feet wide; each side is thirty-six feet of stabling, with the mangers by the side of the aisle, from which the fodder is supplied to the mangers. At the back end of the aisle, and under the floor, is the place to store potatoes for fall feeding, the doors to stables and aisle are at the south end, and a stairway from the centre of the aisle to the floor of the bay, through which the fodder is thrown into the aisle. Sheds are built on each side of the barn at right angles, and as deep as the bay; the lower part of these should be on a level with the stabling, walled on the back side. The manure is cast from the stables under these sheds, where it is preserved from being leached by the rains. These sheds afford ample room for such stock as are not stabled, and also above for fodder.

"By this arrangement, a team may be driven through the barn from east to west, or from west to east, as occasion may require.

"A barn of the above description can be built for about \$500 in most of the western parts of New-York, allowing all above the lower story to be built of wood.

"I am, yours, &c. T. H."

PASTURE FOR SWINE.

A lot well seeded with clover is an elysian field for swine, and will fit them for the butcher much quicker than you could qualify a dull boy for college. Besides, if the ugly but useful creatures are accommodated with a puddle and a clover patch, together with the fee simple of a snug and dry dormitory, in which they may enjoy their nap after dinner, like other epicures, they will be as quiet as lambs and as fat as aldermen, and will need but little more waiting on than if they were already in the pork barrel, well saturated with rock salt of prime quality. But you must not allow them all these privileges, without depriving them of the natural right of rooting, otherwise they will beat much out of place in a pasture as a pig in a parlor, or a bad man in office. A few sweet apple trees in a pig pasture, will add utility to ornament, and prove auxiliary to other means of bringing forward its animal products. Swine, however, should not become "pigs in clover," till about the first of May, that the grass may have a little time to get the start of their voracity.

Easy method of fine edging a razor.—On the rough side of a strap of leather rub a piece of tin, or a common pewter spoon; for half a minute, or till the leather becomes glossy with the metal. If the razor be passed over this leather about half a dozen times, it will acquire a very fine edge.—*N. Y. Farmer.*

Prices Current in New York, May 12.

Beeswax, yellow 18 a 20. Cotton, New Orleans 1.11 a 1.13; Upland, 54 a 1.14; Alabama, 9 a 1.14. Cotton Bagging, Hemp, yd. 14 1/4 a 17; Flax, 13 a 14; Flax, American, 8 a 9. Flaxseed, 7 bushels, clean —; rough —; Flour, N. York, bbl. — a 5.31; Canal, 5.56 a 5.87; Balt. Hwd-st. 5.62 a —; Rh'd. city mills — a 6.12; country, 5.37 a —; Alexandria, 5.37 a 5.50; Fredericksburg — a 5.25; Peters, 5.25 a —; Rye Flour, — a 4.00; Indian Meal, per bbl. 2.75 a 2.87; per hhd. 13.50 a 13.75; Grain, Wheat, North, 1.08 a 1.12; Vir. 1.10 a 1.13; Rye, North, 78 a —; Corn, Yel. Nor. 58 a 59; Barley, — a —; Oats, Sth. and North, 40 a 47; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess 8.00 a 8.50; prime 5.37 a 5.75. cargo — a —; Lard, 1 1/4 a 9; Pork, mess, bbl. 12.50 a 13.50; prime 10.25 a 10.62 1/2.

RARE AND CHOICE GARDEN SEEDS.

Among the new varieties of Garden Seeds kept for sale at the American Farmer Seed Store, are the following:—

LONDON HORTICULTURAL BEANS.—These Beans were first cultivated [by the Editor of the American Farmer] last year, and a brief notice was taken of their excellent quality in the Farmer. They are pole Beans, and unrivalled for richness, as green as Snap Beans, and very productive.

CHOU DE MILAN, or Milan Cabbage, believed to be the best of all the varieties of Savoy Cabbage.

TRUE VEGETABLE MARROW.—This Squash is said by English writers to be very superior in richness to any other of the Squash tribe. So highly is it spoken of in the English Horticultural works that we have imported it at considerable expense.

COCOANUT SQUASH.—This is truly an acquisition to our gardens. It is more properly a pumpkin than a Squash, and the richest and sweetest of all the tribe. The Editor last fall purchased one in New York about thirty inches long and ten in diameter, grown by C. H. Hall, Esq. of Harlem, for the express purpose of obtaining the genuine seeds; the seeds of this Squash are those now for sale.

ACORN SQUASH.—A few seeds of this excellent Squash also for sale.

NORTHERN PUMPKIN.—The true Northern Pumpkin, so celebrated in the north for pumpkin pies, an excellent vegetable, either for stock or table use. Also the Pennsylvania Pumpkin in quantity.

LONG POD WHITE OKRA.—This was also cultivated last year for the first time in this vicinity by the Editor. It is very superior to the common kind; the pods being double the length, and the plants producing double the quantity of the common kind.

DEVON CALVES.

For sale, if taken immediately, a full blood Devon Bull calf, 4 weeks old. Price \$30.

Also, a three-quarter blood Devon Heifer, same age. Price \$20.

Both these are beautiful animals, and will not be sold at these prices unless taken immediately.

Address I. I. Hitchcock at this office. May 18, 11.

IMPROVED CATTLE AND SHEEP.

A few Calves half blooded Durham Short Horn Bull and half, Devon—Price \$50; and half blooded Southdown, and three-quarter blooded Merino Sheep—Price \$10, for sale. Apply to I. I. Hitchcock, at the Office of the American Farmer.

DURHAM SHORT HORN BULL CALF.

A full blood improved Durham Short Horn Bull calf, by Gloucester, out of a first rate thorough bred Cow, four months old, well formed, of good size and points, for sale by the Editor of the American Farmer. Price, if immediately taken, \$150. Apply to I. I. Hitchcock, office of the American Farmer.

GARDENER WANTED.

Wanted immediately, a good Gardener.—Such a one desirous of obtaining an eligible and permanent situation will do well to apply to the Editor of the American Farmer. May 4. 2t.

THE AMERICAN FLOWER GARDEN DIRECTORY.

Containing practical directions for the culture of plants in the hot-house, garden-house, flower garden; and rooms or parlours, for every month in the year, with a description of the plants most desirable in each, the nature of the soil and situation best adapted to their growth, the proper season for transplanting, &c. Instructions for erecting a hot-house, green-house, and laying out a flower garden. Also, table of soils most congenial to the plants contained in the work. The whole adapted to either large or small gardens, with lists of annuals, biennials, and ornamental shrubs, under a general index, and a frontispiece of Camellia Fimbriata. By Hibbert and Buist, Exotic Nurserymen and Florists.

Just received and for sale at the American Farmer Office and Seed Store. Price, \$2.

AGRICULTURAL IMPLEMENTS AND FRESH GARDEN SEEDS.

The subscriber offers at his store and manufactory, No. 36 Pratt street, between Hanover and Charles streets, a great variety of AGRICULTURAL IMPLEMENTS, consisting of his Patent Cylindrical STAK CUTTERS; Gideon Davis' Patent PLOUGHS, with cast and wrought shares, and Castings for the same to supply those worn out; Substratum and Shovel Ploughs; Harrows; Robbin's Patent Corn Planter; Corn Cultivators, Corn Shellers; Wheat Fans; Wire Saws, Hay and Manure Forks, by the single or dozen; Grass and Grain Seythes; Grain Cradles; Hay Rakes, Mattocks; Picks and Grubbing Hoes; Wedging and Hilling Hoes. A variety of Garden and Horticultural TOOLS, &c. &c. These articles manufactured by himself special pains have been taken to procure the best materials and to have the work executed in the best manner.

Also, a great variety of GARDEN SEEDS, both European and American, and of all last year's growth, embracing a great variety of Beans, Cabbages, Radishes, late Peas, Bene Seed, &c. &c. And the following FIELD SEEDS, viz: Tall Meadow Out Grass; Lucerne, of Prime Quality; Mangle Wurtzel, Ruta Baga; Large Yellow Pumpkin, by the quart or bushel; and White Italian Mulberry SEED, of prime quality.

Ap. 20. J. S. EASTMAN.

FLOWER SEEDS.

Just received a supply of Fresh Flower Seeds of last year's growth, many of which are new and the most rare London varieties; 6 1/2 cents per paper.

Early striped Marigold, Mexican Ageratum do., Bladder Katoia, Clematis Flammula, Poppy 4 fine varieties, Scarlet Mallow, Showy Schizanthus, Wing leaved do., Clarkea Pulchella, Primrose, 4 varieties, Azure Blue Glia, African Hibiscus, Red Ice Plant, White Cypress Vine, Larkspur, 3 sorts, Convolvulus, 4 varieties, Honesty or Satin Flower, Sweet Basil, Paony, Polyanthus, Mourning Bride or Sweet Scabious, Floss Idonis or Pheasant's Eye, Love Lilies Bleeding, Prince's Feather, Globe Anaranthus, red and white, Chioia Aster, 4 varieties, Scarlet Caealia, Sweet Sultan, Chrysanthemum, mixt colors, Job's Tears, Morning Glory, mixt colors, Gourd, 3 sorts, Pomegranate or Sweet Seated Melon, Variegated Euphorbia, Flowering Beans, 6 varieties, Balsam, mixt colors, Cypress vine, Sweet Peas, 3 sorts, Lupins, mixt colors, Ice Plant, Marvel of Peru, Forget-me-not, Evening Primrose, Sweet Scented Mignonette, White Egg Plant, Catch Fly, Marigold, of sorts, Devil in a Bush or Love in a Mist, Nasturtium, Heart's Ease or Pansy, Purple Candy Tuft, Fading Beauty, Golden Eternal Flower, Mock Orange, Snake Melon, Snails, Double Purple Lady Slippers, Monk's Hood, Hollyhock, mixt colors, Scarlet Snap Dragon, Columbine, Scarlet Trumpet Flower, Canterbury Bells, Bloody Wall Flower, Stock Gillflower, mixt colors, Sweet Scented Virgin's Bower, Pink, mixt colors, Sweet William, Fox Glove, assorted, French Honeysuckle. Also, 50 other fine varieties not enumerated.—For Sale by

SINCLAIR & MOORE,
Fruit street wharf.

LUCERNE AND WHITE MULBERRY SEED.

Just received from Europe a supply of Fresh Lucerne Seed of prime quality, which will be sold at market price; and also a quantity of White Italian Mulberry Seed fresh and of fine quality, at 50 cents per ounce. J. S. EASTMAN.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—Wheat has advanced a few cents since our last; but in other articles of produce there is not the slightest variation. The wagon price of Howard street flour remains at \$5.25. There is no rye in market.

TOMATO.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 15.00 a 18.00.—Fine yellow, 18.00 a 22.00.—Virginia, 4.00 a —.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 709 hhd. Mid. 28 hhd. Ohio; and 10 hhd. Pennsylvania—total 747 hhd.

FLOUR.—Best white wheat family, \$6.75 a 7.25; super Howard-street, 5.37 a 5.50 city mills, 5.50 a — Susq. 5.25 a —; CORN MEAL bbl. 3.50; GRAIN, best red wheat, 1.20 a 1.25; white do.; Susq. a — — CORN, white, 46 a — yellow 46 a 47; RYE, 75 a — OATS, 35 a 36.—BEANS, 75 a 80—PEAS, 65 a 70—CLOVER-SEED, 6.00 a 6.50—TIMOTHY. 2.00 a 2.50—ORCHARD GRASS — a — Tall Meadow Out Grass — a — Herd's, 75 a 87 1/2—Lucerne — a 3 1/2 lb.—BARLEY, FLAXSEED 1.50 a 1.62—COTTON, Va. 8a104—Lou. 8 a 13—Alab. 8 a 11 1/2—Tenn. 8 a 9 1/2—N. Car. 8 a 10—Upland 8 a 11—WHISKY, hhd. 1st. 27 a 28 1/2 in hbls. 29 1/2 a 30 a — Wool, Washed, Imp. 27 a 28 1/2 in 54 a 57; American Full Blood, 40 a 45; three quarters do. 36 a 40; half do. 34 a 36; quarter and common do. 30 a 34. Unwashed, Prime or Saxony Flaxseed, 30 a 34; American Full Blood, 26 a 28; three quarters do. 24 a 26; half do. 22 a 24; quarter and common, 18 a 22.—Hemp, Russia, ton, \$25 a 30; Country, dew-rotted, 5 1/2 c. lb. water-retted, 7 a 9c.—Feathers, 35 a 55; Pig Iron, gray pig for foundries per ton 35.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 27.50 a 30.00.—Prime Beef on the hoof, 5.75 a 6.50.—Oak wood, 3.25 a 3.50.—Hickory, 4.50 a —.

CONTENTS OF THIS NUMBER.

Editorial: The American Flower Garden Directory.—On Vegetation.—Mice in the Meadows.—Thoughts on Flowers.—The Toad an Enemy to Insects.—Observations on the Various Uses to which Salt-Marsh may be Applied.—On Deep Ploughing and Deep Planting.—Account of an Experiment in Growing the Root Potato, and Preserving Potatoes in Cellars during the Winter.—On the Present State of Agriculture in Virginia.—Top Dressing.—Planting, chapter vii; Enumeration of the Different Species of Forest Trees.—On the Culture of the Grape, and the Proper Time for Trimming Vines.—Review of Prince's Pomological Manual, part II.—Remedy for Diseased Fruit Trees.—Raising of Parsnips.—Observations on the Raising and Manufacturing of Silk.—Description of a Barn—Pasture for Swine.—Easy Method of Fine Edging a Razor.—Prices Current of Country Produce in the New York and Baltimore Markets.—Advertisements.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, basement of Barnum's City hotel,) by I. IRVINE HITCHCOCK, at the following

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged by the year, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letter requesting money.
7. All Postmasters are requested to act as agents for the Farmer; they are authorized to retain \$1 for each new subscriber, and 10 per cent. on all other collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, MAY 25, 1832.

CHEAT.—We publish Dr. Harden's communication on cheat, although we do not see that he throws any new light on the subject. No one believes that any writer has stated that wheat degenerates into cheat, knowing the statement untrue. We have no doubt they all believe it; and further, we have as little doubt that the evidence they had of the correctness of the statement would have satisfied ninety-nine hundredths of the mass of mankind. And yet we are as fully satisfied of the erroneousness of the statement as we are of the well established fact, that, if we plant *Irish potatoes*, we shall not gather *Egg plants*, nor *tomatoes*, nor *bitter sweet*, nor *Jerusalem cherries*, nor any other fruit of that genus of plants, but simply *Irish potatoes*. Dr. Harden's allusion to the parable of the tares, does not strike us as a very forcible argument in support of the popular belief. Indeed, if we take that parable as evidence in the case of cheat, it establishes conclusively the erroneousness of the doctrine of the degeneracy of wheat to cheat. The man "sowed good seed in his field: But while men slept, his enemy came and sowed tares among the wheat and went his way. But when the blade was sprung up, and brought forth fruit, then appeared the tares also." Now it does not appear from this parable, that the tares sprung from the wheat; but an enemy to the farmer "sowed tares among the wheat." There is, however, no evidence that the tares of the Scriptures are the same as the cheat of the present time.

As the past winter has been very hard on wheat and rye, the produce of cheat must be very abundant, if that be the true origin of it. The discussion on the subject will also have caused farmers to bestow close attention to their fields, and to observe the progress of the wheat and cheat, as well as to examine the roots. We therefore think that much light may be thrown upon it this summer. We will take it as a great favour if our friends will send us a few plants of cheat while in flower; those which they suppose originated from wheat, rye, oats, and timothy, that we may compare them, and ascertain their true characters.

POMOLOGICAL MANUAL.—Wm. R. Prince, Esq., of the Linnean Botanic Garden at Flushing, N. Y., has recently published the second part of the *Pomological Manual*, containing descriptions of a great variety of fruit, such as peaches, plums, nectarines, cherries, almonds, raspberries, strawberries and pears.—He has reserved apples for the third part, and very judiciously, as he will be able to avail of the contents of several European publications on that subject, and among them the *Pyrus malus Bromptfordensis*. We have occasionally made copious extracts from this part of the *Pomological Manual* in advance of its publication, having been politely furnished with proof impressions by the author, and therefore our readers will have been enabled to form an opinion of the work for themselves. We cannot omit referring, however, to a very prominent and valuable characteristic of the *Pomological Manual*; we refer to the names of fruit. Almost every kind of fruit has several names by which it is known in different countries and in different parts of the same country. In the *Manual*, Mr. Prince has adopted the name most generally applied to each kind, and at the same time given all the other names as synonyms, by which means persons acquainted only with one of the local names is enabled to ascertain the true one. Besides this it will save many persons the expense and vexation of purchasing the same fruit under a variety of names, under the supposition that they are obtaining several kinds.—This is a peculiar feature of the "Treatise on the

Vine," also by the same author, and it cannot be too highly commended. There are several other valuable traits in this work, and among them we notice the exposition of an error long prevalent in all parts of the country in relation to raspberries. What is commonly called the Red Antwerp Raspberry is not an Antwerp, but a variety very inferior to that fruit. This error was pointed out to us last fall while on a visit to Flushing, by Mr. Prince. We would recommend the *Pomological Manual* to all orchardists and gardeners, as a valuable guide to their professional pursuits. It is for sale at the office of the *American Farmer*, price one dollar.

NEW CHINESE MULBERRY, *Morus multicaulis*.—It is a fortunate circumstance for this country, that this invaluable tree has been introduced just at the time we are about planting trees for the production of silk; for we can now avail of it, without the sacrifice of property in removing other kinds. The new Chinese will certainly supersede the white mulberry in all countries, and we would again advise all who contemplate entering upon the culture of silk, to begin their mulberry plantations with it, for they may be assured that sooner or later there will be none other used for feeding silk worms. A full supply of leaves can be obtained from the new Chinese in half the time required to produce them from the white mulberry; besides the leaves are so large that half the labour of gathering is saved; added to which the highly nutritious property of the leaves, (half a pound being nearly equal in this respect to a pound of white,) puts this variety immeasurably in advance of all other kinds for the purposes of silk. So highly do we estimate this mulberry, as food for silkworms, that we have made arrangements for an extensive supply of the trees, to be ready for delivery in Baltimore on the first of November next, to those who may want them. We shall accompany each package of trees with such directions as will enable the purchaser to propagate them to the best advantage; by following which attentively the purchaser of twenty trees will have twenty thousand in three years—which will supply an abundance of leaves for the largest establishment. We would advise persons wanting them to send their orders soon, that the extent of the demand may be known, and the arrangements modified to meet it fully. All orders will be registered and filled in the order of their receipt. The trees will be of good size, carefully put up in packages of twenty, and sent to any part of the country. The cost of each package of twenty trees will be twenty dollars. We have thought it advisable to give this early notice of the arrangement, that its advantages might be fully availed of by our distant friends.

Editors of papers throughout the country will confer a favour by giving this an insertion in their Journals.

COTTAGE FLOWER GARDEN.

RHODODENDRON PONTICUM.—Now in full bloom This is a most splendid shrub, either for the garden or parlour, being sufficiently hardy for either. The flowers are light purple and clustered in large heads. The buds open successively, so that the various stages from the commencement to the full expansion of the flowers exhibited by the different parts of the shrub, have a beautiful effect.

HEMEROCALLIS FLAVA, *Yellow day-lily*.—This is a very beautiful flower, perfectly hardy, of a bright gold yellow, and of a delicious fragrance. The flower is of the form of the common white lily. Now in bloom.

AMARYLLIS FORMOSISSIMA, *Jacoba lily*.—This is pretty well known; the flowers are of a deep velvet scarlet and very splendid. The bulb requires to be taken up and protected from frost during winter. Now in bloom.

PEONIES.—*Officinalis sabini*, hybrida, and albicans, now in bloom—the two first single the last double, and all very beautiful. The first a bright scarlet, the second a light carmine, and the third bluish, changing to white.

SILKWORMS.—The editor of the *Jerseyman*, (published at Morristown, N. J.) states, that a gentleman engaged in the culture of silk informed him, that "the leaves of the oak were equally acceptable to the silkworm, as those of the mulberry tree." For the twentieth time we would suggest to editors the propriety of bestowing more attention to the true nature of silkworms before they venture to publish such statements as the above. They are calculated to do much mischief, by disappointing new beginners, and causing waste of time and money. The editor of the *Jerseyman* is assured, that silkworms will only eat oak leaves, as men eat old horse soals—when reduced to a state of starvation; that there is no substitute for the mulberry leaf in the production of silk; and that whoever asserts the contrary, is either uninformed on the subject or disposed to hoax his too credulous auditor.

LIME—INQUIRIES.

MR. SMITH:

You will confer a favour on a member of the agricultural community, by inserting the accompanying questions in your valuable paper. I perceive in looking over the 7th vol. of the *Farmer*, that Mr. John Patterson of Baltimore county, made a communication to your predecessor on the subject of lime as a manure. As some time has elapsed since that communication, the result of his experience in the use of lime would be received with much interest.

The points on which information is particularly asked are—1st. The crops to which lime is applied, the quantity per acre and what the previous preparation. If on a naked fallow, is the lime applied before breaking up the land or not, and how long before the seeding in small grain? Is any difference made in the quantity when applied on a naked fallow for wheat or other small grain, and when applied to the corn crop? What the comparative effect on the corn crop and wheat crop? What would be the cost of a ton of limestone, delivered on board a vessel in Baltimore, and how many bushels of unslaked lime will a ton of limestone yield? Can the limestone be converted into lime in the kilns made of logs, (as generally made in burning oyster shells) or is a brick or stone kiln indispensable? A YOUNG FARMER.

FOREIGN MARKETS.

London, April 13.

We have a better supply of wheat, but the supply of flour is small. The seed trade is drawing to a close—prices not altered.

Havre, April 10.

298 bales Lou. cotton, at 90 to 101; 360 Mobile do. at 93, and 18 at 89; 228 Tenn. at 85½—75 bags Hayti coffee, in bond at 80. 111 bbls. Am. Potashes, at 38, 25. 50 tes. rice, per Plutarch, at 31f; 80 do. per Caroline, at 32; 500 bbls. flour, per Shepard, at 37, 50; 50 bbls. N. York flour, 41, 50.

Havre, 11th April, P. M.

The sales this day amount to 1000 bales at steady prices—cotton continues firm—rice has declined. Sales 10th, 60 bales N. Orleans cotton, at 101; 226 do. do. 90 a 94; 300 Mobile, 93; 18 do. 89; 228 Tennessee, 85 a 90; 60 tierces Carolina rice, 31 a 32; 30 bbls. Alexandria flour 37 50; 50 do. N. York do. 41 50. Sales 9th, 419 bales Louisiana cotton, 92 a 94; 244 Mobile, 90 50; 458 N. Orleans, 90 a 93; 569 Mobile, 83 a 93.

Havre, 9th April.—The sales of cotton from the 1st to the 7th inst. are 3403 bales.

Flour.—The demand continues good; some parcels have been sold, to arrive; 250 bbls. New York brought 40.50 for export.

AGRICULTURE.

ON CHEAT.

MR. SMITH:

Morgan Co. Geo., May 4, 1832.

Dear Sir—I wish I was a little of a poet; I would compose a poem on cheat, imitative of the poem of the travellers who disputed respecting the colour of the camellion; but I am no poet. To speak then in plain prose, does it not appear to you that the disputants on cheat are as the travellers who disputed on the camellion, all right and all wrong; both sides are certain they are right, for they have facts to support them, and both sides are as certainly wrong, for facts contradict them; and however inconsistent this may appear, I think I can prove positively, that this is the true state of the case.

The pages of the American Farmer contain proof positive that injured wheat will and does produce cheat; if this be denied, then authority is useless; not from one but several sources, we have the facts stated in a way that seems conclusive. No one I believe would be so much attached to a favourite opinion, as to state in the Farmer, where information only is desired, an absolute falsehood to support his opinions; it is certain then from facts that wheat will produce cheat. Now the facts are also numerous, that cheat planted will produce cheat; if we believe the facts stated in the Farmer, this cannot be denied, it is certain; cheat planted, we have authority good and sufficient to leave the matter undoubted, will produce cheat. Whoever denies either after all that has been said must be determined to be obstinate; for myself, I do now, as I always did, believe both statements are strictly true. I may think wrong, these are my opinions, cheat was the original plant, by cultivation it became wheat; and by defective cultivation again becomes chess; the wheat that has turned into cheat, when planted will produce cheat again, and would probably require many years good management to bring it again into wheat. This opinion is, I think, rendered probable by the Scriptures, Matthew, chap. 13, in which our Saviour states, that a field already sowed in wheat and again sowed over in tares, which is cheat, that the tares will overrun and destroy the wheat, from which it would seem, tares or cheat in those days must have been very abundant. From this chapter, as well as several others, it seems in those days that cheat must have been very abundant, and that it required great care and attention to keep them separate. If then the Scriptures are to be believed, chess sowed produces chess. The word tares it seems means degenerated wheat, knowing as they did that high culture only secured wheat, and that any defective culture turned it into chess; the quality of the wheat was superior to what we now have.—Herodotus says the blade of wheat near Babylon was four fingers in breadth. Then the parable of the sower convinces us, that cheat sowed produces cheat.—The name by which it was then known shows that it came from wheat; the parable shows it was more abundant in those days than now, and the authority of Herodotus shows wheat in former days very superior to our wheat. Is it not probable that the high culture necessary to produce good wheat, produced a kind superior to ours, and that cheat ceased to be produced, and its name forgotten? I believe no nation on earth now calls that plant by the name of tares. What would be the result after they were entirely clear of this evil for many years? They would run more and more into defective culture, until the whole of the wheat would depreciate, and a part degenerate into tares again; then it was that the modern name of cheat probably took its rise. That injured wheat should become cheat, and that cheat sowed should produce cheat, is supported by analogy; the Indian potato of America when carried to Europe, produced the Irish potato, a plant as unlike the Indian potato as cheat is unlike wheat. The Irish po-

tato planted again, produced a potato in the same manner as cheat planted produces cheat; but when we planted the Irish potato here, it had a constant tendency to depreciate; our planting potatoes had to be brought from the north every year, and then they were inferior. But for a few years back, our climate has changed to suit the potato, or the potato changed to suit our climate; certain it is that we can now make very fine potatoes, and our potatoes planted do as well as those that are raised further north. Cabbage seed brought to us, in a year or so becomes collards; a plant as unlike cabbage as wheat is unlike cheat.—Those collard seed carried to Kentucky and planted, become again cabbage, and certainly the best cabbage we have must be very unlike the cabbage of some places, which we have good authority to prove, grows on a stalk from 7 to 15 feet high. What rice planters call volunteer rice, which is degenerated rice, is as unlike rice as cheat is unlike wheat. Although we have no knowledge of mice turning into elephants, yet we have very strange alterations and changes going on in the animal part of creation. They are so familiar to us that they do not appear so wonderful. When, however, we reflect upon them, they are much more strange than the change of wheat into cheat. I told an honest countryman a few days ago, that in some parts of the world, sheep had wheel barrows attached to them to carry their tails; he said he would not believe an angel if he said so.

Now, as the subject of wheat and cheat has been for a long time under discussion, by a number of well informed disputants, and as yet come to no determined point, the next question is, has any good resulted from the discussion? In my own opinion this has been a very interesting argument, and although the parties are as far from agreeing as they were at first, yet to me it appears they have taught us the true nature of cheat and its remedy. The mysterious evil that hung over the nature of cheat so long, is removed, and if the farmers generally would make a proper use of all the information this discussion has brought to light, I do believe in a few years cheat would entirely disappear.

If we take up the Farmer, and begin again reading over all that has been said, without any prejudice on either side, determined to believe all facts that are fully proven, and with a view only to profit by what information we have before us, we can collect a number of fully established facts, and from these facts form conjectures or opinions rendered altogether probable of much importance. Among the facts and opinions, I would name the following: first, cheat can be, and is produced from wheat, from injuries and defects in cultivation; second, that cheat seed when sowed, will grow and produce cheat; that when carried by birds and animals and left on the ground, they will grow and produce cheat; that although left on many places in the fields, yet they grow better in a wheat field than any other place, (some plants grow well with particular crops, while there are other crops that they will not flourish with: the crab grass would, if suffered to do so, destroy our Indian corn, potatoes, &c., while it never more than shows itself in the wheat field until the wheat is removed; the cockle, cheat, &c., if the seed are thrown on ground, laying out if they grow at all, do not do well. I have more than once tried them, but never seen them grow, while in the wheat field they flourish.)

Now from these facts before us certain, we are able to gather the following opinions, which the discussion proves wholly probable. It is certain that wheat will, and does degenerate into chess, probably from these causes, sowing too thick; I have no doubt this defect has caused all our wheat to depreciate in this climate. To make good wheat, only a half bushel should be sown to the acre; being governed by the directions of planters further north, I have sowed my wheat thicker, the result has been, out of 14 or 15 crops, I have cut my wheat only twice, having two years only made seed. Last crop I became convinc-

ed of my error and sowed thinner than usual; I made better than common wheat, but besides that my wheat from 60 acres measured 400 bushels; the whole 400 was not worth 100 bushels of good wheat; when thrown in water, perhaps half would swim, and when that was thrown away, the balance, if not washed in many waters could not be eaten. As I have purchased seed nearly every year, one year I concluded to try bearded wheat; myself and several neighbors got it at the same place and sowed it. Mine was put on very strong fresh land; all who saw it thought it the best wheat they had ever seen; preparation was made to cut it, when to our surprise, a single grain of wheat could not be found in the field; my overseer explained it by saying, hard rains washed off the bloom; it seems to me that some other cause injured it, as all who sowed the same wheat made nothing, none of us cut it. Sowing too thick has depreciated the grain of wheat, and helped to turn it into cheat; second, sowing broadcast instead of drilling and working it. Some of our cotton planters never thin out their cotton; the result is, the plant depreciates, and the bolls become not more than half the common size. I have planted cotton in hills like corn, and found the bolls much larger by it; this year I have 120 acres planted in this way, and believe in a few years the quality of my cotton will be improved by it. By drilling wheat, working it, and thinning it, I have no doubt the cheat will be prevented, and the wheat improved. I have this year some well manured and drilled, if the whole crop is not drilled, enough for seed might be. Third; grazing down wheat: it is fully proven in the Farmer, that at particular times this will produce cheat—is it not probable that at all times it does injury? and fourth, the Hessian fly. I feel certain, that in years that they have been worse, my wheat has had most cheat; but alas, how is this evil to be remedied? If from these causes cheat is produced, and as it is a proven fact that the seed sowed produces cheat again; is it not probable that when from these causes even a few stalks are produced in the field, that they will become mixed with our seed, and scattered by birds, &c., until we would have to do as the man in the parable, pull up the tares or cheat and burn them to get the wheat. These then I think are the important facts and opinions we may gather from the arguments respecting cheat. That it is an evil and a growing evil that can be prevented, the remedy I think almost proven—and if used for a few years, I have no doubt a few stalks of cheat would be a curiosity, from its scarcity. The remedy is, to drill a part for seed, if not the whole crop of wheat, or put it in hills, to thin it well and work it with the plough and hoe, to not have it grazed down, and to plant it on good manured land; and as I have no doubt the Hessian fly has been a considerable cause of wheat degenerating into cheat, I would suggest soaking a small quantity at least of the seed wheat in a strong tincture of camphor before it is planted.

ROBERT R. HARDEN.

P. S. Our corn crops have been nearly destroyed by a little black bug. Some planters have ploughed up their whole crops, and planted over. I do not know an individual who has cabbage plants enough to set out one bed in their gardens, all the seed in the country has been sowed and destroyed by these plaguey little bugs. Many experiments have been tried to destroy them without success. I have been experimenting myself. I have ascertained that a little gum camphor thrown on the plant beds is effectual; should these bugs trouble us next year those who will try it I think will not be disappointed.

Broom Corn.—It is stated in the Hampshire Gazette that broom corn seed has been used for fattening cattle by some feeders for several years, and immense quantities have been consumed in this way the past winter. Cattle fed upon it mixed with corn are said not to be inferior as to the quantity of tallow and quality of meat.

CULTIVATION OF TURNIPS.

Spring Hills, Fluvana Co. Va.
May 6th, 1832. }

MR. SMITH:

The frequent failures which come under my notice in raising turnips, induces me to say a word upon my mode of cultivating that crop in a small way, thinking it probable that the same cause and effect may exist in other parts of the country. I am the more willing to hazard these remarks, as they propose to the farmer the means of killing two birds with one stone, namely: making turnips and land at the same time. This will no doubt suit many as well as it has me, especially those who have much poor land and who burn much wood.

For my turnip lot, I select the poorest gald I have, (even a northern exposure not refused.) Early in spring (if not the fall before) I work it well with plough or coulter, as may best suit. If grassy, with a plough that turns well; but if clear of vegetation, I prefer the single coulter, to be run very deep. The reason is obvious, as if there is grass or clover, it must be destroyed, and this can only be well done by turning it under; but if none, the coulter is best, as, in that case, you can work the ground to the desired depth, without throwing up the under clay, which requires more manure and work to bring into a fine tilth. In either case the lot should be coultured several times afterwards. If the clay is stiff, I carry on as much fine sand as I can with convenience. Sow in June or early in July, carry on all the chips from the wood pile, which are carefully preserved, spread and plough under—the ground should then be well rolled.

About the first of August, all the ashes, both leached and unleached, mixed together, which can possibly be saved, are carried on, and very evenly spread, lightly ploughed and harrowed in. By the 10th of August the seed sown, together with some grass seed, say clover, timothy, orchard grass, or a mixture of all, and lightly harrowed in.

In this way I have had from half an acre, as many turnips as were necessary to complete the fattening of two to three beeves late in fall when summer grass was scarce, and the late fall growth of clover is of but little use to them; besides as many as I cared to store away for winter use. I would say that this quantity of manure is saved from four or five fine places. I adopted this plan seven years ago, and have never missed a fair crop—Some very fine indeed, and that upon land entirely unproductive before. The lots have given astonishing growths of grass afterward, and give promise of so continuing. There being no grass or grass seed upon the land when I begin to operate upon it, and the manures used having none, makes it unnecessary to weed the turnips. Many select for their turnip lot a bit of strong earth, and of course it is well stocked with the seed of grass and weeds, otherwise manure with stable or farm yard manure. Sow broadcast, the weeds and grass spring up, perhaps before the turnips, at any rate soon get the start; they are busy, cannot take time to hand-weed the turnip patch, but few are raised, and they of diminutive size—they conclude that the seed I gave them were not of the same kind I use myself; others go to the woods, clear up new ground. The seed perhaps spring up, the ground is light, the drought and fly together destroy the crop. I had raised good turnips by using strong manure and working them, even when sown broadcast, but finding it very exhausting to the land, and as I go for the future condition of the land more than any one crop, I accidentally fell upon my present plan as an experiment, for I concluded that if I should get no crop, I should not hurt my lot much, as the chips could not be sufficiently decayed to part with much of their strength, but to my astonishment I had good turnips. I then took better care of my chips and ashes, and have now a nice string of lots on which no other manure ever went, some having produced several crops of wheat.

Some might say that as I seem to be afraid of grass and weeds; why sow grass seeds? In reply, I would remark, that the kinds proposed make so slow a start that they never injure the crop much, and often the clover does not come up till the next spring.

These remarks I place at your disposal, perhaps at some time or other you may pick something out of them. I am, dear sir, yours, &c.

JAMES T. JONES.

HORTICULTURE.

(From the Library of Useful Knowledge.)

PLANTING.

CHAPTER VIII.

Enumeration of the different species of Forest Trees.
(Continued from page 77.)

URTICEÆ. Nat. Sys.

Eng. Name.	Bot. Name.
MULBERRY-TREE.	MORUS.

Monacia Tetrandria. Linn.

MALE FLOWER—calyx, four divisions; corolla, none. FEMALE FLOWER—calyx, four-leaved; corolla, none; style, two; seed, single, ovate, acute, covered by the calyx, which ripens into a large fleshy berry.

Time of sowing seed—March, in light earth, with gentle artificial heat; or propagate by layers. Soil—it flourishes best on a rich sandy loam; but it will thrive even on very sandy soils, if of proper depth.—Uses—The black mulberry is chiefly cultivated for its fruit, and the white mulberry for its leaves, which are considered the best food for the silk-worm. It has been long ago recommended that, instead of pulling the leaves off singly for the food of the silk-worm, they should be short off, together with their young branches, by which the tree is much less injured.

Timber or Forest Species.

MULBERRY-TREE.	MORUS.	
Common	nigra	Italy
Red	rubra	N. Amer.

Species for Ornament, &c.

White	alba	China
Paper	papyrifera	Japan

LOTE OF NETTLE-TREE. CELTIS.

Polygamia Monacia. Linn.

BISexual FLOWER—calyx, five parted; corolla, none; stamina, five; styles, two; drupe, one-seeded.

MALE FLOWER—calyx, six parted; corolla, none; stamina, six; seed, a nut, roundish.

LOTE OF NETTLE-TREE. CELTIS.

European Nettle-tree	australis	S. En. 20 to 40
Eastern	orientalis	Levant —
American	occidentalis	N. Am. — 50
Willdenow's	Willdenowiana	China —
Chinese	sinensis	— —
Tournefort's	tournefortia	Levant —

Time of sowing the seed—March, or if it can be procured in time, sow in the autumn, in a mixture of peat and loam, placed in pots or boxes, sheltered from the frost, and shaded in hot weather from the sun. These trees require protection for the first two years, or while young; afterwards they may be planted in any moderately exposed situation. The soil best adapted to them is a sandy loam. Uses—The wood of the European nettle-tree is considered to be one of the hardest; and Evelyn says, that in former times it was used for the manufacture of musical instruments. The American nettle-tree is similar in its foliage and general appearance to the European species; the branches of both are numerous and slender, and the limbs take their rise at a small distance from the ground, and grow in a horizontal or an inclined direction. Michaux observes, that the comparative value

of the wood has not been proved in America, but that it is similar in properties to the former species. As yet those other species enumerated above are considered as merely ornamental.

Eng. Name.

Bot. Name.

ELM-TREE.

ULMUS.

Pentandria Digynia. Linn.

CALYX—five cleft, inferior, permanent, corolla, none; seed vessel, compressed, flat, one-seeded; seed, roundish, slightly compressed.

Time of sowing the seed—As soon as ripe in May, on a bed of fresh loamy earth to be shaded from the mid-day sun, until the plants appear to be well rooted. The Wych elm is almost the only species raised from seed; the other species are raised by layers. The American elms produce seed, but it seldom retains its vegetative powers long enough to be brought to England. A deep loam grows the elm to the greatest perfection Uses—The wood is hard and tough, and resists the effects of moisture better than most other kinds of wood. Its tenacious adhesive quality renders it valuable for many important purposes, keels of ships, navies of wheels, &c.

ELM-TREE.	ULMUS.	Native of	Ft.
English	campetris	Britain	80 100
Cork-barked	suberosa	—	—
Dutch cork-barked	nigror	—	—
Wych	montana	—	—
Smooth	glabra	—	—
Pendulous, or weeping	pendulina	—	—
American	Americana	N. Am.	—
White Hungarian	alba	Hung.	—
Curled	crispa	N. Am.	—
Dwarf	pumila	Siberia	—
Slippery	fulva	—	—
Chichester	vegita	N. Am.	—
Winged	alata	—	—

There are new varieties of the elm of recent introduction, as the Huntington, Chichester, fan-leaved, &c. These exhibit a more rapid and luxuriant growth than the other species mentioned; but their comparative value, as regards the quality of the timber, has not yet, as far as we know, been satisfactorily determined. There is a difference of opinion as respects the comparative value of the wych and the English elms. The weight of opinion is in favour of the English elm, *ulmus campestris*. The corked barked elm is held on all hands to be very inferior, particularly the Dutch species. Where hedge-row timber is at all admissible, the elm is perhaps of all other trees the most to be preferred. The practice of lopping and pollarding these trees sadly disfigures the general appearance of the country where it is practised to any extent, and the timber of such pollards is almost always found defective. The wych elm attains to a great size; Marshall (on Planting, vol. ii.) mentions a tree of this kind near Bradley church, in Suffolk, which, in 1754, measured twenty-five feet five inches in circumference, and in thirteen years after measured twenty-six feet three inches, at five feet from the ground.

AMENTACEÆ. Nat. Sys.

Eng. Name.

Bot. Name.

WILLOW-TREE.

SALIX.

Diceia 1, 2, 3, 5, Andria. Linn.

CALYX, aments composed of scales; corolla, none. In the MALE FLOWER, the notary consists of a melliferous gland; in the FEMALE FLOWER, the style is bifid. Seed—vessel or capsule one-celled, two-valved, downy, numerous, ovate, very small.

Time of sowing seed—March; but generally propagated by cuttings or sets in the spring. Soil—Moist soils of almost every description will suit this tree. Uses—The osier (*salix viminalis*) affords the materials of the basket-maker; also binders, thatching-rods, rakes, scythe-handles, &c. The other species enu-

merated, but especially the *Salix Russelliana*, which is perhaps of more rapid growth than the rest, affords poles and rails, and is made use of for a great variety of other purposes.

The bark of the *salix alba*, Doctor A. T. Thompson observes, supplies the place of the Peruvian bark, in the case of intermittent fevers. It owes its efficacy to a peculiar alkaline principle which has been termed *sadicina*, and which can be separated from the other components of the bark.

Timber or Forest Species.

Species with subserrate villous leaves.

WILLOW-TREES.	SALIX.	Native of	Ft.
Common white	<i>alba</i>	Britain	40
Ash-coloured	<i>cinerea</i>	—	20
Osier (bushy)	<i>viminialis</i>	—	—
Round-leaved	<i>caprea</i>	—	30

Species with leaves smooth, serrate.

Long-leaved trian-	} <i>triandra</i>	Britain	30
drous			
Peach-leave-l	<i>amygdalina</i>	—	—
Duke of Bedford's	<i>Russelliana</i>	—	—
Sweet, or bay-lvd.	<i>pendulandra</i>	—	—
Crack	<i>fragilis</i>	15	—
Halbert-leaved	<i>hastata</i>	—	—
Rose	<i>hizis</i>	—	—
Golden	<i>virellina</i>	—	—
Weeping	<i>babylonica</i>	40	—

Eng. Name.	Bot. Name.
POPLAR.	POPULUS.

Diaccia Octandria. Linn.

Calyx of the ament, a flat scale, torn at the edge; *corolla*, turbinate, oblique, entire; *stigma* of the FEMALE FLOWER, four-cleft; *seeds*, many, ovate, furnished with capillary pappus, which act as wings to carry the seeds by the wind, enclosed in a one-celled capsule.

Time of sowing seed—Propagated by cutting, suckers, and layers; the first mode preferred. Soil—It affects a moist soil, but will grow in almost every description of soil. *Uses*—The chief use of the wood of the forest species is for the turner in the manufacture of trays, bellows, and various domestic utensils. The wood of the Abele poplar is found to be very useful for water works, having been proved to keep sound for a long series of years when so used.

The common grey poplar is sometimes confounded with the abele or white species. The leaves of the former are smaller and rounder shaped, and but little cottony underneath, sometimes smooth. The bark of the stem becomes of a beautiful silvery grey hue. This species is of slower growth, but, in time becomes a handsome tree, with the branches of the top more compact than in that of the abele. The leaves of the abele are densely cottony underneath, as are also the young shoots and footstalks of the leaves. The root is powerfully creeping, which unites the tree to be planted in fields where pasture or tillage exists.—The creeping roots send up suckers, used in propagating the tree. Layers are also used, as well as cuttings of the branches, for the same purpose. It having been doubted whether this or the former was the true abele of the Dutch, where in Holland the abele is highly valued, we procured specimens from a celebrated grower in that country, and these proved, beyond a doubt, that the abele of Holland is the *Populus alba*, or abele of Britain, and not the *Populus canescens*, or grey poplar. The value of this tree, in peaty and low damp soils, is well worthy the attention of the forest tree planter. Besides the uses of the wood before remarked, it is considered good for wainscoting, floors, laths, and packing cases, indeed, from the boards of, if not splitting by, but closing on, the heads of nails, it is considered superior to deal for the latter purpose. The wood of the Lombardy poplar is held in esteem for the like purpose. The bark of the abele is recommended in

the cure of intermittent fevers. It should be gathered in summer, when full of sap, and dried by a gentle heat. When powdered, a dram of it is given every four hours between the fits. A white poplar in St. John's College Walks, Cambridge, blown down in a hurricane, Nov. 6, 1795, was forty two feet in length, and nine feet ten inches in circumference, which, with the limbs, gave 328 cubic feet of timber.

The black Italian poplar attains to a large size in a comparatively short space of time, as is proved heretofore. It delights in moist situations, but grows fast in almost every kind of soil. It is a more valuable tree than the Lombardy poplar, and for upland soils superior to the abele. The timber is used for the like purposes as those of the former. The property of slow combustion seems general in the wood of all the different species of poplar, and this property, which renders the wood valuable for floors and internal works in buildings in case of accidents by fire, renders it of inferior value for fuel.

The aspen, aspe, or trembling poplar, attains to a large size and succeeds well in almost every description of soil, except clay. The roots are very impov-erishing to the land, and the aspen is, therefore, confined to local sites. The well known property of being moved by the slightest currents of air possessed by the leaves of this tree, appears to originate in the structure of the petiole, or footstalk of the leaf, the planes of which, (being a compressed petiole) are at right angles to those of the body of the leaf, which is itself furnished with two glands, running one into the other. Such are the opinions of Linnæus and of Dr. Stokoe regarding this point. But the flattened footstalk is common to all the poplars with which we are acquainted, and all are more or less subject to have the leaves easily put in motion; in fact the structure of the petiole, as now described, will readily explain the matter to the observer, and that in proportion to the length and slender structure of a petiole so constituted to that of the body of the leaf, depends its sensibility of any cause of motion. Lightfoot mentions, that this almost constant trembling of the leaves of the aspen had given rise to a superstitious opinion in some parts of the Highlands of Scotland, that our Saviour's cross was made of the wood of this tree, and that therefore its leaves could never rest.

Among the North American species of poplar, the Canadian (*monilifera*) offers great merits, as far as experience in its culture in Britain affords the means of drawing satisfactory conclusions. It affects a moist, deep, rich soil; such are fertile peat and alluvial soils. Mr. Hursthouse of Tydd, near Wisbeach, planted trees of the *Populus monilifera*, in 1822, and nine years after he had trees of a size to saw into scantlings, which, for toughness of texture, his carpenter stated to exceed any before he had met with. This species is more nearly allied to the *Populus angulata*, or Canada poplar, than to any other species. The Canada poplar is distinguished at first sight by its angular branches. These arise from the lower side of the base of each footstalk, one from the centre of the base, and one from each side of it. The leaves being arranged alternately on the shoot, and these angles or wings falling or proceeding from the base of each, and terminating at or just before they reach the next bud or leaf, form five angles of the shoot. When a shoot is divided, the pith exhibits five angles, corresponding to these nerves of the leaf stalk. A similar arrangement takes place on the shoots of the Canadian poplar, with this exception, that the angles are seven in number instead of five; they are also much less prominent. The botanical characters are specifically distinct; but as these are not often within the reach of the inquirer, the above may be found useful in distinguishing these two species, often confounded together. The magnificent broad shining leaves of the Carolina poplar, with the peculiar habit alluded to, its rapid growth, and general appearance, when advanced to the size of a timber tree, render it well

worthy a place in sheltered glades of plantations.—The lower part of Virginia, Michaux informs us, is the most northern point at which this species is found in America, it being more common in the two Carolinas, in Georgia and Lower Louisiana, on the marshy banks of the great rivers, where it attains to eighty feet in height, with a proportional diameter. He terms the Canadian poplar *Populus Canadensis*: and he gives our *monilifera* to another species, having a smooth cylindrical stem, but similar to the *Populus levigata*. He calls our Canadian poplar cotton-wood, and states that it rises to seventy or eighty feet in height, and three or four feet in diameter; and it is preferred as a useful tree. The Ontario or smooth-leaved poplar, may rank next in order to those just now mentioned, for rapidity of growth and beauty of its foliage. The comparative value of its timber remains to be determined by time. Those other species enumerated below are all deserving of a place in plantations to prove the comparative value of each.

Timber or Forest Species.

POPLAR.	POPULUS.	Native of	Ft.
Com. grey, suc.	<i>canescens</i>	Britain	40
Black, suc. cut	<i>nigra</i>	—	30
Lombardy, cut	<i>dilatata</i>	Italy	70
Balsam	<i>balsamifera</i>	N. Amer.	40
Athenian	<i>Græca</i>	Greece	—
Canadian	<i>monilifera</i>	N. Amer.	30
Aspen	<i>trémula</i>	Britain	50
Abele-tree, suc.	<i>alba</i>	—	40

Ornamental Species.

Carolina lay	<i>angulata</i>	N. Amer.	40
Heart-leaved	<i>candicans</i>	—	20
Various lvd.	<i>heterophylla</i>	—	—
Smooth-lvd.	<i>laevigata</i>	—	30
Weeping	<i>pendula</i>	—	—
Trembling	<i>trepida</i>	—	—
Large-dented	<i>grandidentata</i>	—	—
Laurel-leaved	<i>laurifolia</i>	Altay.	—
Slen.-twigg'd	<i>viminea</i>	N. Amer.	—

(To be continued.)

(From the Tablets of Rural Economy.)

PINUS CEMBRA.

This elegant and valuable species of ornamental Evergreens has not yet, as far as we are informed, been cultivated in this country, although it may be had, we presume, at some of our principal nurseries, as we observe its name in the catalogue of the Messrs. Prince of Long Island. It deserves attention not only on account of its majestic appearance upon bleak and barren mountains, but likewise from the excellence of its timber, and from the circumstance of the kernels in the cone being eatable, in which point it resembles the *Italian stone pine*.

The trivial name applied to it is Apherousli, or Arvenusli, incorrectly however, we should think, as in a note to a description of this tree lying before us, it is said to be derived from the German word Apher, a pine, and nousli, a small nut. These are not German words, but the words in that language which in sound come nearest to this appellation would be Alpen Nüsslein, the little Alpine nut.

It grows on the oldest and most mountainous parts of the following countries: Switzerland, Piedmont, Savoy, Dauphny, Tartary and Siberia.

The Apherousli pine, according to Mr. Harte, (see Harte's Essays in Husbandry.) is of an healthy, vigorous nature, grows very tall, and will bear removing when it is young, even in dry warm weather, but I do not, he adds, recommend the practice. We italicise the last sentence in order to connect it with the following remarks. The proper time for transplanting Evergreens seems not to have been determined. They differ so much in habit and constitution from our other trees, and fail so generally when removed in the spring and fall, that it is apparent these are not the fitting seasons for the operation. It

may be done in winter by digging around and taking up a ball of frozen earth with the plant, but this method is expensive and will not answer where they are to be transported to any considerable distance.—We recollect hearing August mentioned as the best time, but have made no experiment to test it. The *Rhododendron maxima* we have transplanted at various seasons, and without success in every instance, but where it was done in June when the new leaf buds were just expanding. In this state we have brought them in an open wagon a distance of fifty miles, and not a leaf has shrivelled. There are some herbaceous plants also, which are best removed when in full flower, as many species of the *Oreihedeos* family, such as the *Cypripedium pubescens*, *Orchis spectabilis* and *finibriata*. But to return to the *Pinus Cembra*.

"Its timber is large and has many uses within doors or under cover; its grain is finer and more beautifully variegated than deal, and the smell is more agreeable; it is useful for wainscoting, flooring and other joiner's work, and the wood makes excellent firing for stoves, ovens, and kilns. The peasants of the Tyrol, where this tree abounds, make various sorts of carved works with the woods which they dispose of in Switzerland among the common people who are fond of the resinous smell which it exhales. The bark of the trunk of the tree is of a whitish cast, and the branches resemble those of the spruce fir. They are long, smooth, and are produced by fives."

"The cones are of a purplish colour, shaded with black, about three inches long, the same in circumference, and grow erect: a dozen weigh fifteen ounces, or about one ounce and a quarter each; under each scale there are two kernels, and from a hundred to a hundred and fifty in each cone."

The husk, or sort of a shell which encloses the kernels, is easily cracked, and the kernels are covered with a brown skin which peels off; they are about as large as a common pea, triangular like buckwheat, and white and soft as a blanched almond, of an oily agreeable taste, but leaving in the mouth that small degree of asperity which is peculiar to wild fruits and not unpleasing. These kernels make a part sometimes in a Swiss desert, and supply the place of mushroom buttons in ragouts, and on account of their balsamic oil are recommended in consumptive cases.

A writer says it ought to be distinguished as the king of all forest plants, as its fruit is not only a nourisher of health but a promoter of population; and we are informed by a traveller that he has seen trees of this species ninety feet high and near ten feet in circumference at their bases.

(From the New England Farmer.)

FRUIT TREES INJURED BY MICE.

Jamaica Plain, May 5, 1832.

T. G. FESSENDEN, ESQ.

In the New England Farmer of the 2d inst. is a note from Mr. Adams, of Framingham, on the subject of treatment of apple trees injured by mice eating the bark near the ground. I think his method of using the *scions whole* is not so good as the one first recommended by the late Luther Richardson, Esq. of Roxbury, in June, 1810, and published in the memoirs of the Massachusetts Agricultural Society of that year, and which I now send you, recommending its re-publication in your next number, as now is the season for attending to it. I have for some years tried the method with full success.

Having suffered much the past winter in losing very many trees, particularly some new sorts of pears which were planted in the fall of 1830; and made but little growth last year; the bodies are killed from a few inches above the ground for three or four feet; the tops are alive and pushing out to appearance, but knowing they could not live, and the roots being perfectly good, I have cut them off just below the surface of the earth, and taking scions from their own

tops and grafted them, covering them nearly over with earth. As the trees are well fixed in the ground I shall save some years rather than planting new trees, besides saving the sorts. In haste.

Yours, very truly, JOHN PRINCE.

Roxbury, June 10, 1810.

To the Hon. JOHN LOWELL, ESQ.

Sir.—The very great destruction of fruit trees, occasioned by mice and moles, during the winters of the two or three last years, has made it an object of the utmost importance to discover the best means of preventing the mischief, or to invent a remedy for the evil after it has taken place. So prodigiously have these pernicious vermin multiplied of late, in some places, as to threaten the destruction not only of fruit trees but also of forest trees and the grass of our best mowing fields. During the winter of 1808 and 1809, they were known in some places to attack a whole copse of small trees, leaving scarcely one ungirdled; and in many mowing fields to gutter almost the whole surface of the ground, for many acres together, with their burrows and paths. Instead of molesting only the small trees in our orchards, as usual, they have of late completely girdled apple trees, in some instances, of nearly three feet in circumference, and destroyed them.

As this mischief is seldom done but in the severity of winter, when these vermin are driven to the roots of trees for shelter, and are deprived of their ordinary subsistence by the frost and snow, the most effectual way to prevent this injury, is, in the month of November, just before the winter sets in, to clear away all the rubbish and forze from around the roots of young trees, leaving the ground bare, and then to put a coat of dry ashes all around. The roots of the tree then affording them no shelter above ground, and they having a natural aversion to burrowing in ashes; they will be driven for shelter to some other place, and your trees will thereby in a great measure be preserved from their mischief. The ashes, also, will abundantly compensate you for the trouble and expense, causing your trees the year following to thrive and flourish exceedingly.

Another method of some use is, in the early part of winter after the first snow, to shovel snow around the roots of trees, and then tread it down hard, by which it will freeze and become solid like ice, through which they cannot easily penetrate. But this method is by no means sure, as they will frequently burrow under the ice and sometimes injure the roots underneath, and in the least thaw pass up and injure the tree.

But after the injury has been done, and your tree is completely girdled, and all the bark eaten off round the tree to the hard wood, I know of but one remedy to preserve the tree alive, although many experiments have been tried. A tree girdled in this manner, having no means of conveying the sap and nourishment from the roots up into the body and branches above, must wither and die. The usual way among the farmers is, in such cases, to dig up the trees and set out new ones. Sometimes they are cut off and headed down below the place eaten, and new wood in length of time will shoot out and make a second tree.

But it occurred to me, that if any artificial way could be discovered, to renew or make a communication of the circulating vessels of the lower sections of the bark and sap eaten off, with the upper, so as to convey up the juices and nourishment from the roots into the branches, the tree might be made to live and flourish.

Accordingly, choosing a fine thrifty tree about twelve inches in circumference, as soon as the snow was off the ground in the spring, which had been completely girdled by the mice and the bark eaten off all around to the hard wood, more than four inches wide like a belt; I took a sharp knife and evened the edges of the lower and upper circle of the bark eaten off; then took a scion from the tree about the bigness

of a pipe stem, and an inch longer at each end than the space where the bark had been eaten off around the tree, split the scion lengthwise, and shaved the split side down so as to fit to the body of the tree, being very careful not to disturb the bark of the scion; then cutting away the lower circle until it came to fresh bark, made a perpendicular slit one inch down towards the root of the tree, then crossed this at the bottom with a horizontal slit, half an inch on each side, as in budding; then gently peeled up the bark on each side, and fitted the lower end of the scion in and squeezed the bark down around it; then fitted the upper end of the scion into the upper circle of the bark eaten off, in all respects as I had done the lower. In this manner I had placed six scions all round the body of the tree; then covered it over, an inch or more thick, with Forsyth's composition, and hoed the dirt up all around the roots of the tree to keep it moist.

The tree did not put out its leaves so soon nor so vigorously at first, as the other trees; but by the middle of summer it flourished very well, and in the fall there was no apparent difference between it and the surrounding trees. It bore some fruit the last year, and is now covered with young fruit, and appears as healthy and flourishing as any tree in the garden.

In the fall of the year, after this operation, I opened the roots of this tree and tore away the plaster, and to my surprise, I found that four of the six scions had taken, and grown to the size of nearly an inch in diameter. The other two did not take, by which means the tree is a little flat on one side. I lately opened the tree again, and have found that it will soon be covered with bark again, except the side where the scions did not take. This experiment I have known to have been tried several times since, with equal success. Mr. Isaac Davis, of Roxbury, a very intelligent and respectable farmer, in the spring of the year 1809, treated in the same manner a large apple tree of more than twenty seven inches in circumference, which had been eaten off all round, for a space of more than four inches. The tree flourished and bore fruit the last year, and is now covered with a great abundance of fruit; and is extremely thrifty, having recently examined it for the purpose of ascertaining its present state. Mr. Davis made use of common clay mortar in his experiment, instead of Forsyth's composition, which he thinks answers as good a purpose.

Knowing, sir, the interest you feel in every thing that tends to improvement in agriculture and husbandry, I have taken the liberty to address to you the foregoing experiments and observations, which, if in your opinion should be deemed of public utility, you are requested to communicate in any manner you think most useful to society.

I am, with the highest sentiments of respect, your most obedient and very humble servant.

LUTHER RICHARDSON.

(From the Massachusetts Agricultural Repository and Journal.)

LIVE HEDGES FOR NEW ENGLAND.

It is not my intention to recommend live hedges for this rocky part of the United States. Our own stones furnish the best divisions we could ask for or desire; and on most farms the removal of them from the soil would be economical, and the placing them as partitions for fields is the cheapest and most natural mode of disposing of them. Still, in New England, there are extensive tracts of country of alluvial or diluvial soil, in which no rocks are found, and in which a stone wall could not be obtained without great expense. Such is the state of the greater part of the old colony below Plymouth, and of some parts of the county of Middlesex. But wherever wood fences are required, it may be useful to substitute live hedges. The question is, what has been our experience as to the comparative value of the various plants employed in New England for life hedges? In the ro-

marks which follow, I beg it may be understood, that I do not intend to oppose the opinions expressed by a learned and judicious horticulturist, Judge Buel; nor those expressed by practical gentlemen at the south; but simply the results of my own personal experience and observation, during the last 18 years, since the subject of live hedges attracted the attention of our cultivators. Nothing which I may say can in any degree impeach the correctness of their statements, because the causes of the failure of certain plants with us, may have been entirely local. This would not appear remarkable when we consider that the locust, (*Robinia Pseudo-acacia*) is absolutely interdicted to us, while it is the favourite and one of the most valuable trees of the south.

Suffice it then to say, that the Virginia thorn, introduced here by Mr. Quincy, with whom it appeared to succeed, is in most cases utterly useless as a fence. This is chiefly owing to the ravages of a worm at its root; whether it be the same which attacks the apple and the quince, is a point not settled. The same objection is applicable to the English hawthorn. And to this fatal one is superadded another, the appearance of a fungus of a yellow colour on the leaves, which utterly disfigures them and strips them of their foliage in September. The *Gleditsia triacanthos* is not suited for hedges with us. If left to grow they soon grow out of all reach, if checked they are winter-killed. We are indebted wholly and entirely to the experiments of Mr. Ezekiel Hersy Derby, for the possession of a plant, the buckthorn (*Rhamnus catharticus*), which, from ten years' trial, seems to afford every desirable quality for a healthy, beautiful, and effectual hedge. We refer the public to Mr. Derby's account in the New England Farmer, for particulars.

I can only say, and I feel it a duty to say, that I have tried this plant for six years. It is hardy and rapid in its growth, of impenetrable thickness, and so far as that extent of experiment enables me to judge, not subject to any disease, or the visitation of any insect whatever. As it is very provoking as well as expensive to cultivators, to be led astray, and to find after five or ten years, that they have been deceived, they would do well to examine the growing hedges of the buckthorn, or *Rhamnus catharticus*, at Mr. Derby's, Mr. Brook's, Dr. Jackson's, or at my place.

JOHN LOWELL.

RURAL ECONOMY.

(From the Atlantic Journal, No. 1.)

EDITED BY C. S. RAFFINSQUE, PHILADELPHIA.

RESULTS OF THE EXPERIMENTS OF RECLUZ, ON FIXED OILS.

This article is one of those of practical sciences, which belong at once to many, being connected with Agriculture, Gardening, Chemistry, Economy, and Materia Medica; this enhances their value.

Fixed oils of vegetables are of the utmost importance and use for food, light, cooking, soap, machinery, manufactures, and medicines. It was very needful to ascertain exactly what quantity was afforded by each vegetable, so as to know the most profitable to cultivate, and cheapest to use; this has been done by Recluz, a French chemist, and we give here the analysis of his labours.

All the experiments were made upon one pound of the substance, or 7630 grains weight, and the quantity of oil afforded is stated in ounces.

Almonds 14 ounces.

Hemp-seed 34 ounces.

Cocos 4 ounces.

Olives 34 ounces, specific weight .0915, forms solid soap.

Poppy seed 4 oz. specific weight .0922, forms liquid soap.

Arachis or Groundnut 8 ounces, fine eatable oil, citron colour, keeps well and makes good soap.

Sesamum or Bene seed 32 oz. fine sweet oil, limpid and nutrient, but becomes easily rancid.

Pumpkin seed 54 ounces, sweet oil, not siccative.

Cornus berries 4 ounces.

Moringa or Ben oil, 6 oz. white, concrete, made by heat, smells like noyau.

Euphorbia lathyrus seeds 8 oz. by ether, 7 oz. by cold expression; medicinal purgative.

Croton tiglium seeds, 9 oz. green drastic.

Helianthus or Sunflower, 6 oz. sapid sweet oil.

Cyperus esculentus roots, 3 oz.

Datura seeds, 24 oz. medicinal.

Grape seeds, 14 oz. by boiling.

Ricinus or Castor oil, 5 to 6 oz. made cold, 7 oz.

warm, 12 oz. with shelled seeds.

Sassafras seeds, 24 oz. white oil, medicinal.

Beech nuts, 6 to 7 oz. sweet, clear, inodorous; gets better by age to the reverse of other oils.

Zanthium or Burr seed, 44 oz. sweet oil; gives a fine clear light.

Flax seed, 34 oz. yellow brown, siccative, fetid.

Walnuts 8 oz. lemon colour oil, thick, siccative, makes a soft soap, gives 12 oz. with nuts dried in ovens.

Pine seeds (Pinus pinea, P. cembra) 5 oz. sweet oil of good flavour, good to eat.

Almonds of stone fruits, plumbs, peaches, &c. 3 ounces.

Mustard seeds, 34 oz. yellow, sweet odorous, good soap.

Laurus or Baytree berries, 74 oz. green oil, the seeds 12 oz. of concrete greenish oil.

Hazelnuts 74 oz. sweet thin lemon oil.

Thus it will appear that in the United States we might make an immense quantity of oils, from the most oily substances common with us. Groundnuts, pumpkin seeds, sunflower seeds, hazelnuts, walnuts, beechnuts, &c. for all the useful purposes of salads, cooking, burning in lamps, soap making, &c. if industry was not palsied by ignorance.

Mr. Recluz has omitted the cotton seeds, which afford nearly fifty per cent. of good burning oil, and 80 per cent. when shelled. We might make millions of gallons of it in the south, and sell it to profit at 25 cents the gallon. His experiments on the Sesamum are at variance with those made elsewhere; our Bene seed has afforded 80 to 90 per cent. of oil, and keeps well many years.

His experiments on volatile oils, will be noticed hereafter.

(From the Boston Traveller.)

STILTON CHEESE.

There is recorded an article in which a greater variety of appearance and taste exists than cheese; the inhabitants of almost every valley on the face of the globe make a different kind. A very good anecdote lately originated in a Worcester paper, which has gone the rounds of Gen. Knox, an Englishman, and others, who were deceived at a boarding-house in this city some years ago, in a piece of cheese actually made in Worcester county, but which their incredulity would not allow them to consider any other than the celebrated imported Stilton cheese. This story may excite a desire in some of our enterprising agriculturists to imitate an article, which ranks so high among professors of gastronomy; and we will tell them how we have understood the famous Stilton cheese is made.

It is in fact cream cheese, the cream of the night's milk being added to the morning's milk, along with the rennet. The curd is not broken, but put into a sieve to drain and very gently pressed; when the cheese is sufficiently firm, it is put into a wooden ring and kept on a dry board.—These cheeses are mostly made in Leicestershire, and weigh from six to twelve pounds. They are not marketable until

they become blue and moist, which requires about two years' keeping. A little wine is sometimes added to the curd, to bring forward the blueness earlier; others place the cheese in buckets and cover them with some moist substance. Individuals have buried their cheeses separately in the shore below high water mark, to produce the desired qualities. A thicker sort of this is called Cottenham cheese.

(From the New England Farmer.)

THE GREAT NEW HAMPSHIRE STEER.

A very large and beautiful animal of the ox kind, is exhibiting in a temporary shed at the west end of Faneuil Hall, Boston. He is now but four years old, and it is said, weighs nearly four thousand pounds! was bred in Greenland, New Hampshire, is called *Americus*, and is the finest as well as the largest animal of American growth, we recollect ever to have seen. If he continues to increase in size till fully grown, at the rate he has done, he will very much surpass every creature of his species, of which the annals of oxen have taken honorary notice.

MISCELLANEOUS.

(From the Lancaster Miscellany.)

PLANTS.

The albumen or new wood of trees when it hardens in autumn, the leaves as it hardens begin to decay; their source of nourishment ceases, and they finally fall.

Many plants yield water by perspiration, some emit hydrogen, some oxygen, and some carbonic acid. Botanists in travelling make use of tin cases containing moss dampened to preserve the plants.

Plants raised on sand or rocks, emit but little moisture. Evergreens especially, have but little evaporation. The *Fraxinella dictamnus* emits hydrogen gas. Lombardy poplars absorb water and emit it copiously from their leaves, their limbs frequently decay in the heat of summer when they lose their supply of water. Manna has been obtained from the leaves of *Fraxinus ornus*. Honey dew is a sickly exudation on the leaves of plants. Water plants yield oxygen copiously. The air arising from one pond has been ascertained to be carbonic acid gas, and in others nearly adjoining, having plants in them, the air emitted was pure oxygen; this proves the usefulness of plants in the restoration of wholesome air. It is a mistaken opinion that flowers in a bed room will injure the air. The fragrant effluvia of the leaves of geraniums, and from flowers, may be productive of harm.

The *Nymphaea alba odorata*, it closes its beautiful fragrant flowers at night, and expands them in the day. When planted in stagnant pools, it will remove the noxious exhalations. This plant will purify the air very quickly. Where danger is apprehended from water, plant the water lily, but always remove the dead stems and leaves which may be exposed to the action of the atmosphere.

Grape vine leaves are purifiers of air. The action of light, and that of pure hydrogen gas, upon plants is the same. Tulips and crocus retain their colour even in the dark. A leaf of a grape vine suspended by a thread, will turn its surface to the light. Many plants fold in the absence of light. Some fold from a touch, as the *Mimosa*, and *Hedysarum*, *Gyrans* is moved by an electric influence. We are ignorant how decomposition and combination, is conducted, but this we know that they are the means used to purify the atmosphere. The vegetable, like the animal world, is full of wonders, and our reason attempts to unravel them in vain.

Rats.—It is said that chloride of Lime, placed in cellars, closets, garrets, &c. will free them from rats.

METEOROLOGICAL JOURNAL,

(Kept at Clermont Academy, near Philadelphia.) 4th mo. (April,) 1832.

Day of the month.	Thermometer.	Clouds.	Direction and force of the wind.	Remarks before M.	Thermometer.	Clouds.	Direction and force of the wind.	Remarks after noon.
1 47	MS;		sw5		65	MS;	nw6	
2 37	CMS.		nw5		55	C;	sw3	
3 44	MCS.		se1.	r;	57	MS;	nw5	nw1—very cool in evening
4 34	O.		nw3	Ice, cool	53	O.	sw6	hazy,
5 39	C;		nw6	35° at 7 am 42° c, nw 5 at m	45	O.	nw5	34° at 10 pm 0. N2.
6 28	C;		nne1	30° at 7 am	46	C;	nne1	
7 29	C; haze		nne4		50	C;	nne5	
8 35	O		nne5		50	MS;	n5	33° nw3 at 9 pm
9 24	O		nw1	Ground hard frozen—fine	43	MS,	nne	32° at 10 pm
10 32	O		se2	Ice—fine	56	O.	sw1	
11 39	O		sw1	Very fine	70	C; haze	sw2	hazy
12 42	O		0	do 71° 0. 0. at m	73	M, do	sw1	hazy
13 51	O		0	do smoky	77	haze	w1.	hazy
14 51	O		nw0.	do do	82	do	nw1	smoky—1, 71° nw8. 9 pm
15 45	MCS.		nne5		47	MCS.	ne5	r, in night
16 39	MCS.		ne6	r, 43 mcs. r; t and l; at m	45	MCS.	ne7	r; 42° ne7 r, all night
17 42	MCS.		ne5	r; 46 r. at m	47	MCS.	ne6	r, 43ne3. r; in night
18 42	MCS.		ne4	r, 48 r. at m	49	MCS.	ne3	43 ne3 r, do
19 42	MCS.		ne3	r, 49 ne r, at m	48	MCS.	ne3	42 ne3 r, do
20 40	MS.		nne2		53	MS.	n2	
21 40	MS.		nw3		62	MS;	nw5	cloudy in night
22 49	MS;		nw3		61	MS;	nw3	
23 40	MS.		ne3		55	C&S; MS.	ne3	40° at 9 pm—se1. mcs.
24 39	MCS.		se1	cms: sw1. at 9 am	64	MS,	nw2	
25 45	MCS.		se1		66	MS,	sw3	
26 50	O, haze		sw5	76° haze. sw6. at m	79	C; h.	sw7	mcs. sw4. l, in eve
27 64	MS.		sw1		84	C; MS:	w1	69°ms: se2. at 9 pm r; in night
28 48	MCS.		ne5	r; early nne5. 49° at 9 am	50	MCS.	ne5.	r. in evening and night
29 44	MCS.		ne4	r,	49	MCS.	ne2	45° r. ne at 9 pm l, in south
30 44	MCS.		ne3	r; 46° r, ne 3 at m	47	MCS.	ne4	r; 44° ne. r, at 9 pm

SUMMARY.

Mean for the month at sunrise, 41.63.
 Do. do at the daily maximum, 57.66.
 Mean heat for the month, 49.65.
 Range during the month, 60°
 Minimum heat on the 9th, 21°
 Maximum " " 27th, 84°
 Coldest day, the 9th, 31.5.
 Warmest day, the 27th, 74.
 Thermometer at or below 32° on 4 days.
 Rain on 10 days.
 Days of fair weather, 19.
 Days of clouds and storms, 11.—A cold unpleasant month for the season.
 Wind west of meridian on 14 days.
 Wind east of meridian on 16 days.
 Electrical phenomenon on 4 days.

MEMORANDA.

13th. Roads exceedingly dusty, and the ground very dry.
 16th. During the cold northeast storm this morning a single very vivid flash of lightning, followed in fifteen seconds by loud thunder—the storm continued from northeast till the eve of the 20th, six days.—The sun not seen here except at intervals on the 20th—14th. Barn swallows, and 22d, chimney swallows first observed here.
 26th. Baltimore oriole, brown thrush, and cat bird. Cherries beginning to bloom—the flowers of the poplars all killed, and hardly any leaves yet.
 27th. Exceedingly warm. Thermometer 84 at 3 p. m., with a gentle breeze from west; in the evening changed to southeast, and in the night commenced raining.
 28th. Thermometer 48 deg. at sunrise—a depres-

sion of 36 deg. took place within twelve hours.—Storm continued from northeast till the morning of 5 mo., 1st. The catkins of the willows, Athenian and Lombardy poplars, and aspen entirely killed by the frost in last month—the willows and aspen make a very sorry appearance, not half the buds producing leaves. Potatoes, planted in the beginning of last month, frozen and destroyed by the succeeding frosts, though we have frequently had them do well planted in 2d mo. (Feb.) Asparagus very scarce in market. The orioles, finding no shelter in their favourite willows, have left us.

Of the clouds in the 3d and 7th columns of the table. They are distinguished by seven modifications, after the plan of M. Howard and Foster. The three primary modifications are,—the cirrus, always the highest;—the cumulus; and the stratus, always the lowest. The other four intermediate, or compounded of these three, are,—cirro-cumulus;—cirro-stratus;—cumulo-stratus; and cirro-cumulo-stratus, or nimbus.

The cirrus is easily distinguished by its fine whitish thread-like, fibrous lines, like flowing hair, or a loose lock of flax on the clear blue sky.

The cumulus are those heavy, mountain-looking clouds, which are so common of a summer afternoon, ranged in planes, and "their silvery summits presenting a beautiful appearance," and often very quickly changing their appearance.

"The stratus is the lowest of clouds, its under surface generally rests on the surface of the earth or on the water." "It comprehends what we call fogs and mists, &c."

The cirro-cumulus, is formed from the cirrus by losing its fibrous and flowing structure, descending lower in the atmosphere, and assuming the form of

a number of roundish little clouds, lying in close horizontal arrangement, &c.

The cirro-stratus sometimes consists in dense longitudinal streaks, not unlike the lock of flax when wetted, losing its flowing fibrous edging, and sometimes mottled like the back of a mackerel, hence the mackerel back sky—at other times it is spread into a thin sheet, more or less dense, and often covering most of the sky;—it is this form of it which causes the halo, and is often supposed to be the precursor of storms.

The cumulo-stratus is a combination of cumulus and stratus, which may be easily determined from knowing its primaries.

The cirro-cumulo-stratus, or nimbus, is a combination of the three primary modifications, and may increase so as to overspread the whole sky, and let fall its moisture in rain. I use the term nimbus only to distinguish this form when seen in profile, as in thunder showers, where we see rain actually falling.

The letters in the table, are, C for the 1st; M for the 2d; S for the 3d; CM cirro-cumulus; CS cirro-stratus; MS cumulo-stratus; CMS cirro-cumulo-stratus; N nimbus.

When the sky is entirely obscured, a period (.) follows the letter—more than half obscured, the colon (:)—less than half, the semicolon (;)—and when clouds are in very small quantity, the comma (,)—if the sky is entirely clear, a cipher (0) shows it.

Of the winds, N, north; S, south; E, east, and W, west—with the usual combinations for points between. A cipher (0) denotes a calm—the Arabic numeral (1) denotes a very gentle breeze—(2) a little stronger—(3) fine breeze—(4) a strong breeze—(5) a stiff breeze—(6) high wind—(7) a gale—(8) a strong gale—(9) a storm—(!) denotes unusual violence in either wind or rain; and after (r) rain (.) denotes very little—(;) denotes a fine gentle rain—(:) copious rain—(.) heavy rain—(t) thunder and (!) lightning, followed by (!) denotes unusual severity.

I fear I have already trespassed too much—though I have given but a very brief sketch of the clouds. Those interested should consult Rees' Cyclopaedia, M. Howard's papers in the Philosophical Magazine, Foster on atmosphere, and Daniel's Meteorology. If one of your correspondents in the eastern states, one in the south, and another in the west, would only register the heat, the clouds, and the winds, we could better compare the climates of different sections of our country than has yet been done, and much good would result to all. Very respectfully,

SAMUEL S. GRISCOM.

Bees.—In addition to the destruction of fruit trees by cold weather and mice, we learn that from some unaccountable cause, most of the bees in the neighbourhood have perished the past winter, in consequence of which the market has been flooded with honey. We notice this rumor for the purpose of obtaining further information.—*Concord Yeoman*.

Hedysarum Gyans.—Electric Hedysarum. This plant is a native of Spain, has a biennial root; grows from two to three feet in height. The leaves are composed of six pair of oval leaflets. The peduncles are from five to six inches in length, containing spikes of red flowers, exceedingly beautiful, which in June and July expand.

They should every year be raised from the seed, sown in light earth, and they will prove ornamental as a pot plant.

This plant has a remarkable motion of its leaves, being disturbed by the electric state of the atmosphere. [*Lancaster Miscellany*].

WHITEWASH.—As this is the season for whitewashing fences and out houses, put into your whitewash some sulphuric acid, it will make it whiter and capable of resisting the action of the weather.

COMPOST.

A Gardener recommends the following compost for pot plants. "Take one fifth part of the black mould in woods, one-fifth garden mould, one-fifth coarse sand, one-fifth rotten wood, from a wood pile, and one-fifth of good marl. Mix these ingredients in nearly these proportions, and fill your flower pots, you cannot obtain better compost.—*Lancaster Miscellany.*

Willows absorb moisture. This is true, but they emit a large portion which they draw from the earth in perspiration. Care should be taken to plant no willows near houses on the side of springs or brooks, or they will be apt to introduce fever and ague.

EXPERIENCE.

Preventing Onions from sprouting or germinating.—A writer in the Gardener's Magazine says, that this may be effected by simply applying a heated iron for a few seconds, to the nozzle of the onion where the roots protrude.

Prices Current in New York, May 19.

Boeswax, yellow 18 a 20. Cotton, New Orleans. 10 1/2 a 13; Upland, 8 1/4 a 11; Alabama, 9 a 11 1/2. Cotton Baggins, Hemp, yd. 14 1/4 a 17; Flax 13 a 14; Flax, American, 7 a 8. Flaxseed, 7 bush. clean —; rough —; Flour, N. York, bbl. — a 5.37; Canal, 5.43 a 5.75; Balt. Hwd-st. 5.75 a —; Rhd. city mills — a 6.12; country, 5.37 a —; Alexandria, 5.37 a 5.50; Fredericksburg — a 5.25; Petersg. 5.25 a —; Rye Flour, — a 4.00; Indian Meal, per bbl. 2.75 a 2.87; per hhd. 13.50 a 13.75; Grain, Wheat, North, 1.09 a 1.20; Vir. — a —; Rye, North, 74 a 82; Corn, Yel. Nor. — a 60; Barley, — a —; Oats, Sth. and North, 45 a 53; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess 9.00 a 10.00; prime 5.57 a 5.87. cargo — a —; Lord, 7 1/2 a 9; Pork, mess, bbl. 12.50 a 13.75; prime 10.25 a 10.81.

RARE AND CHOICE GARDEN SEEDS.

Among the new varieties of Garden Seeds kept for sale at the American Farmer Seed Store, are the following:—

LONDON HORTICULTURAL BEANS.—These Beans were first cultivated [by the Editor of the American Farmer] last year, and a brief notice was taken of their excellent quality in the Farmer. They are pole Beans, and unrivalled for richness, as green as Soap Beans, and very productive.

CHOU DE MILAN, or Milan Cabbage, believed to be the best of all the varieties of Savoy Cabbage.

TRUE VEGETABLE MARROW.—This Squash is said by English writers to be very superior in richness to any other of the Squash tribe. So highly is it spoken of in the English Horticultural works that we have imported it at considerable expense.

COCONUT SQUASH.—This is truly an acquisition to our gardens. It is more properly a pumpkin than a Squash, and the richest and sweetest of all the tribe. The Editor last fall purchased one in New York about thirty inches long and ten in diameter, grown by C. H. Hall, Esq. of Harlem, for the express purpose of obtaining the genuine seeds; the seeds of this Squash are those now for sale.

ACORN SQUASH.—A few seeds of this excellent Squash also for sale.

NORTHERN PUMPKIN.—The true Northern Pumpkin, so celebrated in the north for pumpkin pies, an excellent vegetable, either for stock or table use. Also the Pennsylvania Pumpkin in quantity.

LONG POD WHITE OKRA.—This was also cultivated last year for the first time in this vicinity by the Editor. It is very superior to the common kind; the pods being double the length, and the plants producing double the quantity of the common kind.

LUCERNE AND WHITE MULBERRY SEED.

Just received from Europe a supply of Fresh Lucerne Seed of prime quality, which will be sold at market price; and also a quantity of White Italian Mulberry Seed fresh and of fine quality, at 50 cents per ounce. J. S. EASTMAN.

DEVON CALVES.

For sale, if taken immediately, a full blood Devon Bull Calf, 4 weeks old. Price \$30.

Also, a three-quarter blood Devon Heifer, same age. Price \$30.

Both these are beautiful animals, and will not be sold at these prices unless taken immediately.

Address L. I. Hitchcock at this office. May 18. It.

IMPROVED CATTLE AND SHEEP.

A few Calves half blooded Durham Short Horn and half Devon—Price \$50; and half blooded Southdown, and three-quarter blooded Merino Sheep—Price \$10, for sale. Apply to L. I. Hitchcock, at the Office of the American Farmer.

DURHAM SHORT HORN BULL CALF.

A full blood improved Durham Short Horn Bull Calf, by Gloucester, out of a first rate thorough bred Cow, four months old, well formed, of good size and points, for sale by the Editor of the American Farmer. Price, if immediately taken, \$125. Apply to L. I. Hitchcock, office of the American Farmer.

AGRICULTURAL IMPLEMENTS AND FRESH GARDEN SEEDS.

The subscriber offers at his store and manufactory, No. 36 Pratt street, between Hanover and Charles streets, a great variety of AGRICULTURAL IMPLEMENTS, consisting of his Patent Cylindrical STRAW CUTTERS; Gideon Davis' Patent PLOUGHS, with cast and wrought shares, and Castings for the same to supply those worn out; Substratum and Shovel Ploughs; Harrows; Robbin's Patent Corn Planter; Corn Cultivators, Corn Shellers; Wheat Fans; Wire Safes, Hay and Manure Forks, by the single or dozen; Grass and Grain Scythes; Grain Cradles; Hay Rakes; Mattocks; Picks and Grubbing Hoes; Weeding and Hilling Hoes. A variety of Garden and Horticultural TOOLS, &c. &c. Those articles manufactured by himself special pains have been taken to procure the best materials and to have the work executed in the best manner.

Also, a great variety of GARDEN SEEDS, both European and American, and all of last year's growth, embracing a great variety of Beans, Cabbages, Radishes, late Peas, Bene Seed, &c. &c. And the following FIELD SEEDS, viz: Tall Meadow Oat Grass; Lucerne, of Prime Quality; Mangle Wurtzel, Ruta Baga; Large Yellow Pumpkin, by the quart or bushel; and White Italian Mulberry SEED, of prime quality.

Ap. 20.

J. S. EASTMAN.

FLOWER SEEDS.

Just received a supply of fresh Flower Seeds of last year's growth, many of which are new and the most rare London varieties; 64 cents per paper.

Early striped Marigold, Mexican Ageratum do., Bladder Katania, Clematis Flanula, Poppy 4 fine varieties, Scarlet Mallow, Showy Schizanthus, Wing leaved do., Clarkea Pulchella, Primrose, 4 varieties, Azure Blue Gilia, African Hibiscus, Red Ice Plant, White Cypress Vine, Larkspur, 3 sorts, Convolvulus, 4 varieties, Honesty or Satin Flower, Sweet Basil, Pansy, Polyanthus, Mourning Bride or Sweet Seabius, Flony Idonis or Pheasant's Eye, Love Lies Bleeding, Prince's Feather, Globe Amaranthus, red and white, China Asher, 4 varieties, Scarlet Caccalia, Sweet Sultan, Chrysanthemum, mixt colors, Job's Tears, Morning glory, mixt colors, Gourd, 3 sorts, Pomegranate or Sweet Scented Melon, Variegated Euphorbia, Flowering Beans, 6 varieties, Balsam, mixt colors, Cypress vine, Sweet Peas, 8 sorts, Lupins, mixt colors, Ice Plant, Marvel of Peru, Forget-me-not, Evening Primrose, Sweet Scented Mignonette, White Egg Plant, Catch Fly, Marigold, of sorts, Devil in a Bush or Love in a Mist, Nasturtium, Heart's Ease or Pansy, Purple Candy Tuft, Fading Beauty, Golden Eternal Flower, Mock Orange, Snake Melon, Snails, Double Purple Lady Slippers, Monk's Hood, Hollyhock, mixt colors, Scarlet Snap Dragon, Columbine, Scarlet Trumpet Flower, Canterbury Bells, Bloody Wall Flower, Stock Gillyflower, mixt colors, Sweet Scented Virgin's Bower, Pink, mixt colors, Sweet William, Fox Glove, assorted, French Honeysuckle. Also, 50 other fine varieties not enumerated.—For Sale by

SINCLAIR & MOORE,

Pratt street wharf.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—There is not much variation in the produce market. Howard street flour from wagons is now \$5.37 1/2. City mills flour has advanced 25 cents, being preferred for exportation at this season of the year. Grass seeds are now out of season, and we omit quoting them.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 15.00 a 19.00.—Fine yellow, 18.00 a 22.00.—Virginia, 4.00 a —.—Happahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00.—The inspections of the week comprise 799 hhd. Md.; 85-hds. Ohio; and 2 hds. Penn. and 2 hds. Conn.—total 888 hds.

FLOUR—best white wheat family, \$6.75 a 7.25; super Howard-street, 5.37 a 5.50 city mills, 5.75 a —; Susq. 5.25 a —; CORN MEAL bbl. 3.50; GRAIN, best red wheat, 1.20 a 1.25; white do. —; Susq. 1.25 a —; CORN, white, 46 a — yellow 45 a 47; RYE, 60 a —; OATS, 36 a 36.—BEANS, 75 a 80 a 175; 65 a 70.—CLOVER-SEED — a —.—TIMOTHY, — a —.—ORCHARD GRASS — a —.—Tall Meadow Oat Grass — a —.—Herd's, 75 a 87 1/2.—Lucerne — a 87 1/2 lb.—BARLEY, FLAXSEED 1.50 a 1.62.—COTTON, Va. Sea-Isd. 10-9 a 13—Alab. 8 a 11 1/2—Tenn. 8 a 10.—N. Car. 8 a 10.—Upland 8 a 14.—VIRGINIA, hds. 18.25 a —; in bbls. 20 a —.—WOOL, Washed, Prime or Saxony Fleeced 50 a 60; American Full Blood, 45 a 50; three quarters do. 40 a 45; half do. 35 a 40; quarter do. 30 a 35; common 25 a 30. Unwashed, Prime or Saxony Fleeced, 30 a 35; American Full Blood, 27 a 30; three quarters do. 25 a 27; half do. 22 a 25; quarter do. 20 a 25; common, 17 a 20. Hemp, Russia, ton, \$22.50 a 23.00; Feather, dew-rotted 54 a 56 lb. water-rotted, 7 a 9.—Feathers, 36 a 37; Plaster Paris, per ton, 4.00 a —, ground 1.50 a — bbl. Iron, gray pig for foundries, per ton 33.00 a — bbl. pig for forges, per ton, 28.00 a 30.00; bar, Sth. porton, 72.50 a 80.00.—Prime Beef on the hoof, 5.75 a 6.50.—Oak wood, 3.25 a 3.50.—Hickory, 4.50 a —.

CONTENTS OF THIS NUMBER.

Editorial; Cheat; Pomological Manual; New Chinese Mulberry; Silk worms; Notices of Flowers.—Lime, Inquiries.—Foreign Markets.—Communication from Dr. Harding on Cheat.—Broom Corn used for Fattening Cattle.—Letter from James T. Jones on the Cultivation of Turnips.—Planting, chapter viii; Enumeration of the Different Species of Forest Trees.—Notices of the Pinus Cembra.—To Preserve Fruit Trees Injured by Mice Eating the Bark.—The Buckthorn Recommended as an Effectual Hedge.—Results of the Experiments of Reeluz on Fixed Oils.—How to Make Stilton Cheese.—Great New Hampshire Steer.—Remarks on Plants.—To Destroy Rats, &c.—Samuel S. Grison's Meteorological Journal for April.—Destruction of Bees.—Hedysarum Gyranus.—Whitewash.—Compost.—Willows.—To Prevent Onions from Sprouting or Germinating.—Prices Current of Country Produce in the New York and Baltimore Markets.—Advertisements.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, Inasmuch of Barnum's City hotel,) by L. IRVINE HITCHCOCK, on the following

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged by the year, and never for a short term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters requiring no answer.

Our Postmasters are requested to act as agents for the Farmer; they are authorized to retain \$1 for each new subscriber, and 10 per cent. on all other collections.

Printed by John D. Tey, corner of St. Paul and Market streets.

PETER FARMER.

BALTIMORE, FRIDAY, JUNE 1, 1832.

CHEAT.—The time for practical observation and demonstration has arrived. Our wheat fields are beginning to show heads, and cheat is now to be found. Every farmer should now carefully examine into the origin of the pest. We would earnestly entreat all persons to divest their minds, as far as practicable, of all bias in favour of, or against the popular belief, that cheat is degenerated wheat, and go into their fields with a determination to vindicate the integrity of truth. We have ourselves not been idle, having taken a wheat field and a timothy lot under our special care. In both these fields we have found abundance of cheat, but in both of them it exists most luxuriantly where no injury has been done to either wheat or timothy. In the wheat field, near the fence of the barn yard, where the washings of the latter were freely received, and where the wheat is so luxuriant that it is falling down and rotting, cheat is most abundant. On the same spot last year there was a heavy growth of cheat, but it was cut before the seed was ripe, with a view to its extermination. This year there is very little compared with the crop of last year. In the timothy field, (where wheat has never been grown,) the cheat is most abundant, especially near a cherry tree occupied as a roost by fowls; this spot also receives the washings of the wood and cart yard, and of the hen dung, and the growth of timothy is very luxuriant. The owner of the farm feels sure that there was no cheat seed in the wheat or timothy seed sown. The ground had been cultivated in corn for a number of years by a previous occupier, who was in the habit of putting manure in the hills of corn, but never before last year was either wheat or timothy grown on it. Whether cheat had ever made its appearance on the ground before wheat and timothy were sown, we could not ascertain. These are the facts relative to these two cases of cheat. To our minds they offer no support to the theory of wheat and timothy turning into cheat; on the contrary we found all the evidences of their being distinct plants that could be desired. We found the cheat plants with all their generic and specific characters, and were able to distinguish them with facility long before the heads appeared. The owner of the farm pointed out several large clusters of timothy, saying "that is all cheat." Upon pulling it up, however, the bulbous root and the smooth leaves too clearly pronounced it timothy. On pulling up a great number of cheat plants we could not discover any remains of a decayed stalk; they were all evidently the produce of seed. In all the cheat plants we examined, the following character was invariably present;—it was as invariably absent in the wheat and timothy;—the leaves and envelope of the stalks are covered with short hairs, so that when held up to the light they appear loaded with down, about one sixteenth of an inch long. When drawn between the fingers the leaves impart a disagreeably harsh sensation to the touch. Although timothy has not invariably a bulbous root in all situations, it has in the field under our notice, which is high and dry; we found no appearance of a bulb on the cheat plants. On carefully comparing cheat plants from the wheat field with those from the timothy, we found them identically the same in all their parts—not a shadow of difference could we detect, even under a most powerful microscope. The owner of the farm assures us that he believes, that rich land, or land made rich by washings from stable or poultry yards, the application of manure, &c., will alone bear cheat. He is not satisfied that wheat or timothy will produce cheat; he says he has never seen it but where one or the other had been sown. On comparing wheat plants with timothy before the heads ap-

peared, we found a much greater resemblance between them, than between wheat and cheat or timothy and cheat.

From the above statement of facts we shall not pretend to draw an argument nor deduce any definite conclusion; but rather proceed with the collection of facts as they occur, till the end of the season, when, with the assistance of materials furnished by correspondents, we hope to be able to clear up the subject in a way that shall leave no further ground for doubt.

NEW AND DELICIOUS SPINAGE.—The Editor of the American Farmer announces with peculiar gratification, the introduction of a new and most excellent spinaceous vegetable, in the *Chenopodium Quinoa*.—It is deemed, at his table, very far superior to any kind of spinage, when prepared as such, and to any kind of vegetable usually called greens. It is extremely tender, and of a fine rich flavour. It is easily grown, even more so than any other vegetable, a patch a rod square furnishing an abundance for a family of ten persons for a month, and this requiring only an ounce of seed. One plant of early spring sowing, left standing on a rich part of the patch, will produce an abundance of seed for the next year's use.

The above quality of the Quinoa makes the introduction of this vegetable a valuable acquisition, even though it did not possess the still more valuable property of a cereal plant. In the latter quality we believe it will soon rank among our most valuable grains. When prepared in any of the forms that rice is usually served up, it is excellent, and in one or two we decidedly prefer it to rice. Its culture appears to be attended with no difficulty whatever. It is unaffected by frost, and grows vigorously before any other plant shows any signs of vegetation. It is, however, a "rough feeder," and the richer the ground the greater will be the produce—even a pile of rotted stable manure, with a little earth on the surface, is not too rich for it. In such a place a single plant will yield from one to two quarts of grain. On very rich ground the plants require more room than on a poor or medium soil—they should be allowed from one to four feet square according to the soil. They bear transplanting as well as cabbage plants, and we have now a considerable patch planted out for experiment. In this mode, (transplanting,) an ounce of seed will furnish plants for an acre of ground.

For spinage or greens, the seed can be sown at different times during summer, so as to ensure a supply till winter. All that it requires is a rich soil. We shall furnish the American Farmer Seed Store with a good supply of the seed the ensuing fall.

SPLENDID WORK.—We have just received from England a copy of the "*Pyrus Malus Brentfordensis*," or a concise description of selected apples, by Hugh Ronalds, of Brentford; with a figure of each sort drawn from nature on stone, by his daughter."

This is probably the most splendid and at the same time the most correct publication on apples ever laid before the public in any country. There are one hundred and eighty-five varieties of apples described and figured; and so correctly and beautifully are the drawing and colouring done, that a person familiar with any apple represented, will detect it instantly without the aid of the marginal references. Miss Ronalds has certainly performed her part of the work with eminent success; it is creditable alike to her genius and industry. There is one lamentable deficiency, however, in this work, and one which every possessor of a copy will find it necessary to supply by way of notes—we allude to the names of fruit. Mr. Ronalds has only given the name by which each apple is most generally known, at his nursery, without any reference to the numerous synonyms; so that in this country many of the apples will not be known by the names in the book, though, as before stated, any body will know the fruit by the drawing, if he is familiar with the original. Prince's Pomological Ma-

nual, third part, will be a valuable assistant in supplying this deficiency. To nursery men this book is invaluable, as it will not only enable them to ascertain the correct names of apples, but to exhibit a picture of the fruit to their customers, scarcely inferior to the fruit itself. It will also be a splendid addition to gentlemen's libraries, especially amateurs of fruit. So splendid a work it will of course be expected is very costly, the price being five guineas in London, and hence no copies have been imported by our booksellers—indeed it is believed that there are only three or four copies in the United States.

(For the American Farmer.)

MOUNTAIN RICE—INQUIRY.

I wish to be informed through the medium of the Farmer, whether the cultivation of the mountain rice has been found profitable in any part of the United States? And if so, where seed of this species could be procured for the purpose of trying an experiment on a small scale?

The following account is taken from Loudon's Encyclopedia of Plants:

"*Oryza nutica*, the dry or mountain rice, cultivated in Ceylon, Java, and of late in Hungary, has the culm three feet high.—It is sown on mountains and in dry soils; roots with a long inundation, and perishes with sea water.

"In the hilly parts of Java, and in many of the Eastern Islands, the mountain rice is planted upon the sides of hills, where no water but rain can come; it is however planted in the beginning of the rainy season, and reaped in the beginning of the dry season. It is entirely unknown in the western parts of India, but it is well known in Cochinchina, where it thrives in dry light soils, mostly on the sides of hills, not requiring more moisture than the usual rains and dews supply, neither of which are frequent at the season of its vegetation.

"There is a kind of hill rice which is hardy enough to grow on the edge of the Himalayan snows. It is almost to be expected that this will, at some future time, prove an acquisition of value to the European cultivator." D. T.

INQUIRY.

MR. SMITH: *Darlington, Md., May 23d, 1832.*

Sir—A subscriber to the Farmer will be much indebted to some of your numerous readers, who will inform him through the Farmer, of a sure remedy for destroying those yellow striped bugs, which are so very destructive to water-melon plants, being about the size of a grain of wheat; and also requests the best mode of cultivating the above-mentioned plant. Particulars are respectfully requested. ALPHA.

Fire Proof Cement.—The French cement for the roofs of houses, to preserve the wood and protect it from fire, is made in the following manner:

"Take as much lime as is usual in making a pot full of white wash, and let it be mixed in a pail full of water; in this put two and a half pounds of brown sugar, and three pounds fine salt; mix them well together, and the cement is completed. A little lamp-black, yellow ochre, or other coloring commodity, may be introduced to change the color of the cement, to please the fancy of those who use it. It has been used with great success, and been recommended particularly as a protection against fire. Small sparks of fire that frequently lodge on the roofs of houses, are prevented by this cement from burning the shingles. So cheap and valuable a precaution against this destructive element ought not to pass untried. Those who wish to be better satisfied of its utility can easily make the experiment by using a small temporary building—or it may be tried on shingles put together for the purpose, and then exposed to the fire.

AGRICULTURE.

(From the Library of Agricultural and Horticultural Knowledge.)

THE DAIRY.

In treating of the dairy we propose adopting the following arrangement:

1. Situation of the dairy.
2. Nature and properties of milk.
3. Making and curing of butter.
4. Process of cheese making.

I. SITUATION OF THE DAIRY.

1. The dairy house should be erected in a situation which is airy. The walls and roof protected from the influence of the sun, that the temperature throughout the year may range from fifty to fifty-five degrees; hence, a northern aspect will be most desirable. A dry situation should be selected to give facility to cleanliness; all stencches are injurious—it will, therefore, be advantageous to use spring water frequently, (and especially during the warm weather,) which, if the situation be favourable, may be supplied by a pipe leading from some neighbouring spring. In conducting a butter dairy, it will be advisable to divide it into three compartments—a milk house, a churning house, with conveniences for washing and scalding the implements, including a suitable boiler, and a room appropriated for keeping them in, and where they may be dried when the weather is unfavorable. A cheese dairy may be divided into a milk house, a scalding and pressing house, and a salting house.—The milk dairy requires only two apartments—a milk house and a room for scalding and cleansing the utensils, and for other necessary purposes.

2. The utmost cleanliness should be observed throughout. All the utensils employed in making butter should be scalded, scrubbed, rinsed, and dried every time they are used. In making cheese it is not so necessary to scald as it is to have them well washed and dried every day. When vessels become tainted with the acidity of milk, such vessels act like a leaven to every thing placed in them, and should be thoroughly cleansed by boiling; but when this is not effectual, alkali added to the boiling water will be found essential, afterwards the utensil must either be boiled or immersed for two or three days in pure water.

II. THE NATURE AND PROPERTIES OF MILK.

The chemical properties of this secretion differ somewhat in different animals. The milk of the cow has been most attentively examined, and it has the following properties:—

1. It is nearly opaque; white, or slightly yellow; of an agreeable sweetish taste, and a peculiar smell. Its specific gravity varies from 10.18 to 10.20. It boils at a temperature a little above that of water, and freezes at 32 deg. When allowed to remain a few hours at rest, a thick unctuous liquid collects upon its surface, called cream; the colour of the remaining milk becomes bluish white, and when heated to about 100 degrees, with a little rennet, it readily separates into a coagulum, or curd, and a serum, or whey. In this way, the three principal constituents of milk are separable from each other.

2. By the process of churning, cream is separated into butter and buttermilk; the latter being the whey united to a portion of curd. Butter may be considered as an animal oil, containing a small portion of curd and whey.

3. The curd of milk has the leading properties of coagulated albumen. Curd in combination with various proportions of butter, constitutes the varieties of cheese. That containing the largest quantity of oil becomes semi-fluid when heated; it is prone to decomposition, and a large quantity of ammonia is then formed in it; whereas, bad cheese, which consists of little else than curd or albumen, shrinks and dries when heated, curling up like a piece of horn.

4. Whey is a transparent fluid, of a pale yellow colour, and a sweetish flavour; by evaporation it affords a minute quantity of saline matter, and a considerable portion of sugar of milk.

Having stated the chemical properties of milk, it may perhaps be advisable to advert to some observations made by Dr. Anderson, relative to the quantity of cream which is obtained at various periods during one milking:

“The first drawn milk from any cow, at any time, is always much thinner, and of a worse quality, than that which comes afterwards, the richness continually increasing to the very last drop that can be drawn at that time;” so that if the milkers do not perform their task thoroughly, even to the last drop, or supposing to the last half pint, the owner loses as much cream as would be afforded by six or eight pints at the beginning, the last quantity containing the richness and high flavour of the butter in a high degree. This the Doctor proves by various experiments, thus: “Having taken several large tea cups, exactly similar in size and shape, and filled them at regular intervals, during the period of one milking, the last being filled with the dregs of the milk: they were each weighed, so as to ascertain that the quantity of milk was exactly the same. The quantity of cream obtained from the first drawn cup; in every case was much less than that from which was last drawn; and those between afforded less or more as they were nearer the beginning or end. It is unnecessary to specify intermediate proportions; but the quantity of cream obtained from the last drawn cup, from some cows, exceeded that in the first in the proportion of sixteen to one. In other cows, however, and in particular circumstances, the disproportion was not quite so great; but in no case did it fall short of the rate of eight to one.—Probably, upon an average of a great many cows, it might be found to run as ten or twelve to one.

“In the next place, the difference in the quality of the cream obtained from the two cups was much greater than the difference in quantity. In the first cup the cream being a thin tough film, and very white; but in the last two of a thick but yraceous consistence; and of a glowing richness of colour that no other kind is found to possess.

“The difference in quality of the milk that remained was, perhaps, still greater than either the quantity or quality of the cream, that in the first cup being a thin bluish liquid, while that in the last was of a thick consistence and yellow colour, more resembling cream than milk, both in taste and appearance.”

If milk be put up in a dish, and allowed to stand till it throws up a cream, that portion which rises first to the surface is richer in quality, and greater in quantity, than that which rises in a third equal space of time; and that of the third than that of the fourth; and so on, decreasing in quantity, and declining in quality as long as any rises.

Thick milk always throws up a smaller portion of the cream that it actually contains, than milk that is thinner; but the cream is of a richer quality; and if water be added to that thick milk, it will afford a considerably greater quantity of cream than it would have done if allowed to remain pure; but its quality is, at the same time, greatly debased.

“Milk which is put into a pail, bucket, or other proper vessel, and carried in it to any distance, so as to be much agitated, and in part cooled before it be put into the milk pans to settle for cream, never throws up so much, nor so rich cream, as if the same milk had been put into the milk pans directly after it is milked.”

Since the time of Dr. Anderson's observations, an ingenious instrument has been invented, called a lactometer, by which the quantity of cream from a given quantity of milk may be observed, by mere inspection. The description and application of this instrument are clearly shown in the following extracts from a letter received from Miss A. Bradshaw, of Linfield, who, in connexion with this subject, has made some judi-

cious remarks on the produce of cream dependent on the nature of the pasturage on which the cows are fed.

“The lactometer is a straight glass tube, with a mark at the top to denote a hundred parts of milk, that must be put in when it comes from the cow.—The upper part is graduated, perhaps twenty or thirty degrees downwards; and after the milk has been in ten or twelve hours, it will be very visible what percentage of cream the cow's milk gives. Thus—if it is in the fifteenth degree the cream will be 15 per cent. The last milk taken from the cow has always the greatest portion of cream, and this will often vary, according to the food the cow is getting.—Tares and lucern will produce good cream in summer, and beet and mangold wurzel in winter; and if a small quantity of saltpetre be dissolved in warm water, and put into the cream previous to its being churned, it will take away any unpleasant flavour those roots might otherwise impart to the butter. When it is wet weather, the cream will not be in so great a quantity, as in fine dry weather, and the richer the ground is that the food comes off, the more cream there is, and the better the milk; upon an average I get one pound of butter from twelve quarts of new milk, and four quarts and one pint of cream produce four pounds of butter, as the soil gets richer. I have observed that it takes a less quantity of milk for a pound of butter, and a greater quantity of butter will be produced from one quart of cream in summer. I skim my milk every twenty-four hours, but this depends partly upon the state of the weather; if it be cool, I can keep it thirty-six hours; in winter it may stand from thirty-six to forty-eight hours, very well. Cleanliness is of the greatest importance; and it is always necessary to take care not to dip the skimmer into the milk which has stood the longest, and afterwards into that which has been strained up a shorter time.”

III. THE MAKING AND CURING BUTTER.—MILKING.

1. Cows are generally milked but twice in twenty-four hours, morning and evening; but for the first three or four months after calving, the milk being then much more abundant, it would be better to perform this operation three times a day. It is important that the milk be drawn off clean, otherwise it will not only be less in quantity and inferior in quality, but the cow will also be dried off prematurely.

2. The milk, when brought in from the cows, should be strained through a fine hair searce or strainer, and placed in clean pans. It is a practice with many to keep the morning and evening's milk in separate pans, as the former is much superior to the latter in quality. A tin skimmer, with holes in it, is the best for taking off the cream, which is then transferred to a vessel called a cream receiver.

The period for keeping the cream previous to churning, varies from two to four days. To ensure success a certain degree of acidity seems necessary; to effect this, a little old cream, rennet, or lemon-juice is sometimes added.

4. The churn, whether pump or barrel, should be made of the best well seasoned white oak; and, as cleanliness is of the first importance, great attention should be paid to the washing, drying, and airing of the churns, immediately after use, otherwise they are sure to contract a sour and unwholesome smell, which must injure the quality of the butter. In the process of churning, great nicety is required; a few hasty irregular strokes or turns have been known to spoil what would otherwise, have been excellent butter.

5. The best time for making butter, according to usual practice, during the summer season, is early in the morning, before the sun has attained much power. But this, of course, depends upon contingencies on which it is impossible to calculate. Science, however, has reduced that to a certainty which hitherto has been a matter of doubt. Butter of the best quality can only be produced at a certain temperature. And the knowledge of this fact is of such importance, that

we earnestly invite the attention of our readers to the following details, for which Mr. Ballantine obtained the highest premium offered by the Highland Society of Scotland.

"The degree of thermometrical temperature at which butter from cream can be obtained, ranges from 45 to 75 deg. of the scale of Fahrenheit; and, from the annexed experiments, it appears that the greatest quantity of butter, from a given quantity of cream, is obtained at 60 deg. and the best quality at 55 deg. in the churn, just before the butter comes; for, in the experiments made it was found that the heat rose four degrees during the operation of churning, though the temperature of the milk-house was the same. Repeated experiments, made at this degree of heat, gave butter of the finest colour and quality, the milk being completely separated from the butter, which, when washed and made up in rolls, kept for a fortnight, without acquiring either smell or taste. At 60 deg. the quantity is greater, but the quality much inferior, being soft and spongy, and giving out a considerable quantity of milk when salt was applied, which may account for the additional weight. Several experiments were made with heat up to 75 deg. the result of which, as will appear by the table, completely accounts for the great quantity of inferior butter made in the country.

"By taking high heats, on purpose to accelerate the churning, the milk not being taken from the butter, it cannot keep, either sweet or salted. When the heat exceeded 65 deg. no washing could detach the milk from the butter without the aid of salt; but when a quantity of salt was wrought well into it, and the mass allowed to stand for twenty-four hours, and then taken to a well of spring water, and repeatedly washed, the milk, by this process, was got out, and the butter re-salted in good order.

"According to Experiment No. 1, sixteen pounds and a half of butter (sixteen ounces to the pound) were obtained from sixteen Scotch pints of cream, and, from several experiments at the same heat the result was the same; that is, more butter was produced from the same quantity of cream than at any other heat, though the quality was inferior, both as to colour and texture, to the butter produced from heat, as in Experiment No. 2, which was of the very best quality, and the quantity the same as in No. 2, except towards the middle of September, when an increase of about six ounces was got from the sixteen pints of cream, in consequence of the milk producing richer cream than in the summer months.

"Experiment No. 3.—The same heat was taken, but the experiment was made in a different form, and with milk from different cows, though the pasture was much the same. The churn was placed in the kitchen, exposed to a temperature of 60 degrees; but, by removing it to an out-house, the heat was brought down to 52 deg. at four o'clock in the morning, and just as the butter was forming, the heat was found to be 56 deg. having risen four degrees. The quality was such as would ensure a ready sale in any market, at one penny or two pence per pound above what I saw in the house made at a former churning. No. 3 in the table is an average of four experiments, made at the same heat, in all of which the butter was excellent.

"Experiment No. 4. Heat of cream, when put into the churn, 65 deg.—rose to 67 deg.—in thirty minutes butter came, but it was what is called bursting the kirk. The quantity was deficient, and the quality really bad, being white, short and bitter. Both salt and saltpetre were applied without effect, for the butter continued soft and pale. A few more experiments were made on a small scale, with heats as high as 75 degrees; and although butter was got, yet it was of such a quality as was only fit for grease butter.

"Experiment No. 5, is the result of several churnings, taken at 50 degrees, in which the butter was of good quality, but evidently injured by being so long under the churning process.

"From these experiments it appears, that the tem-

perature at which butter from cream can be obtained, in the greatest quantity, is 60 deg. in the churn, just before the butter is formed, or 65 deg. when put into the churn.

"The best quality at a temperature of 51 deg. in the cream, and 55 deg. in the churn.

"The temperature at which butter from cream can be obtained in the greatest quantity and of the best quality, in the medium of Experiments Nos. 1 and 2, or 534 deg. of cream, and 574 deg. in the churn, before butter comes, as appears from No. 6, which gives the result of several churnings, taken at the medium heat of Nos. 1 and 2. At this heat every advantage is gained, as to quality, and any additional quantity that may be obtained by higher heats, is only so much milk retained in the butter, which must greatly injure its quality. If the churning house is properly constructed, it is easy to gain this heat the whole season; for, when the heat of the air was 75 deg. through the day, it was only 50 deg. in a hatched milk-house, at four in the morning; and when the heat is below that, with the assistance of hot water, you can bring it up to the heat wanted.

"If the churning process is then carried on with heats, as in Experiment No. 6, every advantage will be gained, as far as heat is concerned. Butter intended to be sent to the market sweet, should be carefully gathered from the milk with the hand, and the milk gently squeezed out of it. It should then be put into cold spring water, and, after being well washed, it should be made up into rolls, with wooden flappers, and put into cold water to firm, but should not be allowed to remain longer than is necessary to firm it, as the water hurts both its flavour and colour. The salt should be well wrought into it, before it is pushed into the store kiln.

Number.	Date.	Scotch pints of Cream.	Degree of heat in the Cream.	Degree of heat when Butter came.	Quantity of Butter, 16oz. per lb.	Time of churning	Height of the Cream of 8 in.	Heat
1	June 13, 1825.	16	56	60	16lb 8oz.	14 hours.	1lb. to pint.	56 deg.
2	June 20, 1825.	16	52	56	16lb	2 hours.	1lb. to pint.	52 deg.
3	June 24, 1825.	16	52	56	16lb.	2 hours.	1lb. to pint.	52 deg.
4	July 12, 1825.	16	65	67	15lb. 8oz.	30 min.	3lbs. 16oz. to pint.	70 deg.
5	Oct. 20, 1825.	16	50	53	15lb. 12oz.	3 hours.	1lb. 1oz. to 50 deg. pint.	
6	Aug. 20, 1825.	16	53	57	16lb. 5oz.	14 hours.	1lb. to pint.	

"No. 1, shows the greatest quantity of butter produced by the above heats.

"No. 2, The best quality of the butter.

"No. 3. The fine flavour and quality of this butter could not be surpassed.

"No. 4. The quality soft, white, and milky.

"No. 5. Quality injured by long churning.

"No. 6. Answer to the Society's query. Quality most excellent, high in colour and flavour, and solid as wax."

6. The butter, immediately after being churned,

should be thrown into fresh spring water, where it should remain for a sufficient time to make it firm; some limit it to an hour, (more or less,) according to the season of the year; and at the end of the third or fourth washing, some fine salt should be put into the water, which will raise the colour of the butter, and purge away any milk that may remain among it.—Before salting, it is very essential that no milk or water be left, otherwise a strong smell and unpleasant taste will be the certain consequence. The butter thus prepared should be immediately salted, the maker exercising his own judgment in doing so.—The mixing of the salt with the butter should be done in wooden dishes, after the water and milk are completely expelled. The operation concludes by weighing and making up the butter in the usual manner, either for the table or market.

7. In winter, the butter generally loses a portion of its richness, and assumes a lighter colour, in which case a small quantity of annatto may be reduced to a fine powder, and mixed with the cream before it is put into the churn. The juice of the carrot and the flowers of the marigold, expressed and strained through a linen cloth, impart a similar colour, and are certainly more wholesome.

8. The milk of new-calved cows should never be set for butter until at least four days after colouring, as a small quantity of such milk will impart a disagreeable taste to the whole of the cream to which it is added. The practice of scalding cream in cold weather should also be avoided, as cream thus treated will never make good butter.

9. Turnips, carrots, &c, impart a disagreeable odour to the milk, which may in a great degree be counteracted by a weak solution of nitre. In spring water, applied in the proportion of one small table spoonful to every two gallons, as soon as the milk comes into the dairy. It may also be removed by the following simple process:

Let the bowls, whether of lead, wood, or earthenware, be kept constantly cleaned and well scalded with boiling water before using. When the milk is brought into the dairy, to every eight quarts add one quart of boiling water; and then put the milk into the bowls to stand for cream. By keeping strictly to this practice, sweet and well-tasted butter has been made all the winter from cows house-fed upon turnips solely.

Salting and Preserving Butter.—Butter should be salted and cured as soon as possible after it is made. The proportion of salt to a pound of butter is one ounce; but when it is not intended to be kept through the winter and spring, the proportion may be smaller, and regulated according to the taste of the consumer.—Some persons, to a pound of salt add four ounces of sugar; the salt, at all times, must be kept perfectly dry. In Ireland, the use of salt and saltpetre is recommended in the proportions of one ounce of stored rock or bay salt, and one-fifth of an ounce of saltpetre, to twenty-eight ounces of butter.

After the butter is made it will be desirable to put it down as early as convenient. The casks should be oak, ash, or lime-tree; the latter is to be preferred; the wood should be boiled for four hours previous to being made into casks, and afterwards well soaked in spring water. Whether casks or crocks are used, the greatest cleanliness should be observed. Old and new butter should never be mixed, nor should two makings; however, should there not be a sufficient quantity collected in one day to fill a package when cured, the quality of the butter may in a great measure be preserved by giving it a partial salting, and covering it over with a clean linen cloth, placing it in a cool place. Butter should be well pressed down, its surface covered with pure salt, and the lid put securely on to exclude the air.

In small dairies, for domestic use, the butter is pressed down in layers, on each of which pure salt is strewed; when the crock is filled it is tied down.

(Process of Cheese-making in our next No.)

(For the American Farmer.)

CHEAT OR CHESH.

The very appropriate and temperate remarks on Dr. Muse's "final communication" by the Editor of this paper, have given me much satisfaction.

Although Dr. M. has retired, he has left his comments and his arguments behind him to be examined; and it appears that I have been one of the objects of his special notice.

"What the Gleaner may obtain," says Dr. M., "may not require him for his labours." I only purposed to glean his errors, and throw them like broken glass, out of harm's way.

He proceeds: "I said 'the philosopher in his vanity' &c., and he appears to apply the remark to himself, and retorts it with severity." Dr. M. ought to be more cautious in making assertions. Among the modern nations of Europe no eminent men are held in greater respect, and none are referred to by patriots with more pride, than their philosophers; and the general censure cast on them by Dr. M. I considered indecorous and unjust. I therefore remarked, though mildly and respectfully, that "vanity is not peculiar to philosophers," adding that "every man who goes beyond his depth [whether philosopher or coxcomb] is liable to the same charge." I then appealed to Dr. M. in the hope that he would "join me in believing that obstinacy and dogmatism were not more common among the learned and enlightened than among the ignorant and the illiterate." Dr. M. was presumed to be one of the "learned," and therefore this could be no retort; nor is there to be found in the whole paragraph any trace of an improper assumption on my part.

Dr. M. after enumerating "calyx, corolla, stamina, pistillum, pericarpium, semina, and receptaculum," says, "in the corn case all these essential characteristic marks were unlike those of the parent plant," so that "no naturalist could refer the corn to its true source, by its generic marks." I trust that Dr. M. can furnish no proof for these assertions, except the absence of the husk, and the necessary changes to accommodate the pistillum in the same flower with the stamina. There is much reason to believe that the stamina remained unchanged in every respect; that the pistillum was only shortened; and that the grains were only a little rounder for want of compression, like those often seen at the ends of well filled ears of other Indian corn. No respectable naturalist would think for a moment that it had turned into a new genus; neither would he admit that such a variety ought even to be marked as a different species.

Almost immediately after quoting the word "inflorescence" Dr. M. speaks of double flowers. This is not the sense in which it is used by botanists; for "inflorescence" relates not to the flowers themselves but to the manner of their arrangement on the plant whether in umbels, panicles, racemes, &c., and consequently those who are not aware of this distinction, have not understood my argument on the peach and the almond.

Dr. M. is unfortunate in selecting authorities. *St. Pierre* was a French novelist of some taste; and in his *Studies of Nature* there are fine sentiments and beautiful sketches of the scenery of different climates; but *St. Pierre* who only viewed Nature with the eye of a poet, was so ignorant of her operations as to deny the diurnal motion of the earth! and he ascribed the tides to the fusion of the polar ices, not having discernment enough to distinguish between a tide and a flood! Many of his remarks on botany are about on the same level; and Dr. M.'s opinions can derive no sensible support from such feeble props.

Dr. M. has made some apology for quoting *Pliny*, but he has made none for neglecting the opinions of scientific men of modern times; nor for referring to "the enlightened days of Rome." There was no Roman botanist of note previous to the time of *Pliny*, who "was a mere compiler," his attention having

been greatly engrossed by his public employments.—However estimable may be his character, it ought to add no weight to borrowed opinions which he had not time to examine. After these days, *Apulejus* wrote of 130 medicinal plants; and *Galen*, who was his contemporary, mentioned the uses of about 450 plants. He wrote against those authors who had attempted to describe plants; and thought the knowledge of them was better acquired by tradition!—Such was the state of Botany in "the enlightened days of Rome."

Dr. M. says "for sixteen-seventeenths of that period, [1700 years] from the days of *Pliny*, exclusive, I think [knowledge] was retreating in all the sciences and the arts"—that is down to the year 1769. Dr. M. is strangely mistaken. Within that period of sixteen hundred years,—in MATHEMATICS, algebra, trigonometry, logarithms, and fluxions were discovered;—in MECHANICS, printing, guns (and gunpowder), clocks and watches, and the air pump, were invented;—in OPTICS, spectacles, the telescope, and the prismatic spectrum were first known;—in ASTRONOMY, *Copernicus*, *Kepler*, *Tycho Brahe*, *Galileo*, *Huygens*, *Cassini*, and *Newton* flourished; the laws of gravity and refraction were investigated; and Jupiter's satellites and three of Saturn's, with Saturn's ring, were discovered;—in BOTANY, (the subject more immediately before us) *Gesner*, *Cesalpinus*, *Gerarde*, *Bauhin*, *Parkinson*, *Ray* and others, cast a shade over all ancient botanists; and though these notes are designedly brief and imperfect, they are sufficient to shew that Dr. M. might have written more carefully.

I deny that he has proved, or even rendered it probable in the slightest degree, that one plant can ever be transmuted into another. There are boundaries over which no variety can pass; and though towards some other species it might approach, like the curve of the hyperbole to its asymptote, yet if infinitely extended it could never touch it.

This debate with Dr. M. may comparatively be called a war of out-posts. If he had proved all that he wished to prove in regard to the transmutation of other plants, it would not prove that wheat ever turns into cheat.

A GLEANER.

(From the British Farmer's Magazine.)

ON THE COMPARATIVE MERITS OF THE DRILL AND BROAD-CAST SYSTEMS, FOR TURNIPS.

October 5, 1831.

Sir,—I have enclosed the following facts and observations for your useful Magazine, and beg to offer some remarks on circumstances, which, I think, are generally overlooked.

Having been extensively employed in agriculture in several counties, and it may be supposed, on a variety of soils, I was long enthusiastically attached to the drill system for turnips, and have directed my constant attention to this valuable crop, in every stage of its growth, on every description of soil. It occurred, however, that I occasionally found it necessary to sow turnips broad-cast, on parts of fields not finished with the drill.

I have invariably observed, on turning sheep into such fields, that they passed over the drilled part of the crop, merely smelling at the turnips, but immediately when they came to the part which had been sown broad-cast, they began feeding, and always left the drilled till the last. This naturally induced me to endeavour to ascertain a cause for so extraordinary a circumstance. I then pulled up turnips from the broad-cast part of the crop, cut and tasted them, and generally found them sweet, soft, and pleasant, and I may also state, they had, for the most part, only one tap root.

The turnips sown by drill, I found, had generally, besides the main root, several smaller ones; on cutting such, I found them tougher, not so sweet, and, indeed, frequently rather bitter. Here then, I conceived,

I had detected the cause of the preference manifested by the sheep. But to make assurance doubly sure, I had some turnips pulled up, which had been sown by both methods, and mixed together before the sheep were turned upon them, when they readily selected the produce of the broad-cast portion of the crop, and consumed them first.

These facts are surely of importance to those whose object it is to bring sheep rapidly forward on turnips.

I think that it must be admitted, if the nature of the turnip be observed, that it affects to grow out of the ground with one tap root, and this will generally be the case with such as are sown broad-cast, while those sown by drill, having too much soil thrown on them, additional roots are encouraged, and the quality of the turnip is deteriorated.

I am well aware that many advocates for the drill system will disagree with me on the subject. To them I would say, "facts are stubborn things"—and no man was, till the circumstances I have detailed occurred, a more decided advocate for the drill system than myself, and no one approves it more highly than I do, when practised with pulse and grain on suitable soils.

Should any of your readers wish for further information on the subject of what I have remarked in pursuit of this inquiry, Mr. Ridgway has my address, and I am always happy to impart any information in my power. I am, sir, your obedient servant,

W. I.

HORTICULTURE.

(From the Library of Useful Knowledge.)

PLANTING.

CHAPTER VIII.

Enumeration of the different species of Forest Trees.

(Continued from page 84.)

(Subordo, *Belulina*. Nat. Sys.

Eng Name. Bot. Name.

ALDER-TREE. ALNUS.

Monoclea Tetrandria. Linn.

MALE FLOWER—receptacle of the ament, wedge-shaped, truncated, composed of three flowers; calyx, scaly; corolla, four-parted; stamina, four. FEMALE FLOWER—Ament calyx, scaly, or two-flowered; corolla, none; seed, compressed, oval, naked.

Time of sowing seed.—Autumn or spring; if left until spring, preserve them in dry sand. Soil.—Moist or damp soils are the most fit for the growth of the alder. Uses.—This tree is the most valuable of the sub-aquatic forest-trees. The wood is esteemed for under-water-work, as piles, pipes, pumps, sluices, &c. The charcoal made of its wood is highly valued for the manufacture of gunpowder. The bark and young shoots afford a yellow dye, and also afford a basis for black colours.

Besides the uses just mentioned of the wood of the common alder, the roots and knots furnish a valuable material for cabinets, this part of the wood being often beautifully veined. The bark is used by dyers, tanners, and leather dressers, and for tanning nets.—An ounce of the bark powdered and boiled in three-fourths of a pint of water, with an equal quantity of logwood and solution of copper, tin, and bismuth, six grains each, and two drops of solution of sulphate of iron, will dye a strong deep *bouc de Paris*. The Laplanders are said to chew the bark, and dry their leathern garments with their saliva. The shoots cut in March are said to dye a fine cinnamon colour, and a handsome drab or tawney when previously dried and powdered. The value of the charcoal in the manufacture of gunpowder is well known.

Linnaeus says that horses, cows, sheep, and goats eat it, but that swine refuse it. The tongues of horses feeding upon it are said to turn black during its use. It is very astringent, and most probably unwholesome to animals as food. In low damp situa-

tions, by the sides of streams, &c., it makes the best hedges, as it grows in such situations freely, where the thorn or quick will make little or no progress.—in damp situations it is an useful coppice wood. The economical properties of the varieties of the common alder enumerated below have not hitherto been proved; they are ornamental, and deserving of a position in the damp margins of woods.

The American species are considered to be inferior to the common alder as regards the uses of the wood and the bark; nor as yet are there any proofs of the comparative value of the Siberian and European species, beyond that of giving variety to the effects of foliage in plantations.

Timber or Forest Species, and for Ornament, &c.

ALDER-TREE.	ALNUS.	Native of	Ft.
Common	<i>glutinosus</i>	Britain	25
Var. Silver-striped	<i>foliis argenteis</i>	—	—
„ Emarginate	<i>emarginata</i>	—	—
„ Cut-leaved	<i>incisa</i>	—	—
„ Jagged-leaved	<i>laciniosa</i>	—	—
„ Oak-leaved	<i>quercifolia</i>	—	—
„ Oblong-leaved	<i>oblongata</i>	S. Europe	—
„ Elliptic-leaved	<i>elliptica</i>	—	—
Hoary-leaved	<i>incana</i>	Europe	—
Var. Angular-leaved	—	—	—
„ Winged	—	—	—
Broad-leaved	<i>macrophylla</i>	—	—
Siberian	<i>Siberica</i>	Siberia	—
Saw-leaved	<i>serulata</i>	N. Amer.	—
Wave-leaved	<i>undulata</i>	Canada	—
Glaucous	<i>glauca</i>	N. Amer.	—
Red	<i>rubra</i>	—	—
Dwarf	<i>pumila</i>	—	—
Heart-leaved	<i>cordifolia</i>	—	—

facture of boxes, baskets, and sandals; its durability is so great that it is used in preserving parts from decay by wrapping it round them. The Laplanders prepare the skin of the rein deer with the bark.—They cut the bark into small pieces, which they macerate, and afterwards boil in water, with the addition of a little salt. The skins are plunged repeatedly into this decoction warmed, and are allowed to remain in it several days. They are then taken out, and rendered pliable and soft, and in this state they are scarcely permeable to water. In Russia, by slowly burning the bark in kilns, an empyreumatic oil is obtained with which leather is prepared, highly esteemed for durability. Evelyn enumerates a great variety of uses to which the birch is applicable, and Lightfoot gives details of its uses in the Highlands of Scotland. In America, the black birch is considered the most interesting of the species of that country. In some parts of the United States it goes by the name of black birch; in Virginia, mountain mahogany; and in Connecticut sweet birch; and in Canada, cherry birch. In deep loose soils Michaux has observed some seventy feet high, and two to three feet in diameter. The habit of this species is admired for its foliage, and its odoriferous flowers. In the Annals of the Arts a stock of this species is stated to have attained the height of forty-five feet in nineteen years. It is highly deserving a place in British forests.

The white birch, as it is called in America, or *Betula Populifolia*, seldom rises to more than twenty-five feet in height. The distinctness of its foliage is its only recommendation at present known, for its wood is considered of inferior quality. The red birch of Michaux, or the *Betula lanibusa* of our list is chiefly found in Maryland, Virginia, and the upper parts of the Carolinas and of Georgia; it is seldom found farther north than New York. The epidermis of the bark of trees not exceeding eight or ten inches in diameter, is of a red or cinnamon colour, but on large trees (it sometimes attains to seventy feet in height) the bark is of a greenish hue. The twigs of this species are considered superior to those of any other species for the purpose of making brooms. The paper birch is considered by some to surpass the common species in size and value of its wood. In Canada, and the district of Maine, the country people place large pieces of bark immediately below the shingles of the roofs of their houses, as it forms a lasting and very impenetrable barrier to the rains. Various articles are manufactured of it, such as portfolios, &c. which are sometimes embroidered with silk of different colours. When divided into very thin sheets, it forms a substitute for writing paper; but the most important use, Michaux observes, to which it is applied, is in the construction of canoes. To procure proper pieces of the bark for this purpose, the largest and smoothest boles are selected. In the spring two circular incisions are made several feet apart, and two longitudinal ones in opposite sides of the bole; after which, by introducing a wooden wedge, the bark is easily detached. These plates are usually ten or twelve feet long, and two feet nine inches broad.—To make the canoe, they are stitched together with fibrous roots of the white spruce, about the size of a quill, which are deprived of the bark, split and made supple by immersion in water. The seams are coated with resin of the balm of Gilead fir. Great use is made of these canoes by the natives and French Canadians in their long journeys into the interior of the country—they are very light, and are easily transported on the shoulders from one lake or river to another. A canoe calculated to carry four persons, with their baggage, weighs from 40 to 50 lbs.—some of them are made to carry as many as fifteen persons.—Upon the whole, this species appears to be well worthy the attention of the British forest-planter of certain descriptions of soil. Of the other species of birch enumerated below, the last seven are of dwarf stature, and fit only for cover, or for the margins of

woods; at least the experience that has as yet been had of their culture does not warrant any further recommendation of them at present; but with these, as with numerous other species of trees, extended experience, and careful observation of their properties, and most suitable soils, are wanted, before satisfactory conclusions can be arrived at, as to their relative or comparative values.

Timber or Forest Species.

BIRCH-TREE.	BETULA.	Native of	Ft.
Common	<i>alba</i>	Britain	40
Var. Warted	<i>verrucosa</i>	—	—
„ Weeping	<i>pendula</i>	—	—
„ Palmate-leaved	<i>denticata</i>	Asia	—
„ Eastern	<i>macrocarpa</i>	—	—
„ Large-fruited	<i>pubescens</i>	Europe	—
Pubescent	<i>pubescens</i>	N. Amer.	—
Poplar-leaved	<i>populifolia</i>	—	—
Tall	<i>excelsa</i>	—	—
Woolly	<i>lanibusa</i>	—	—
Yellow	<i>lutea</i>	—	—
Black	<i>nigra</i>	—	—
Daurian	<i>daurica</i>	Dauria	—
Paper	<i>papyracea</i>	N. Amer.	—
Soft	<i>lutea</i>	—	—
Hornbeam-leaved	<i>carpinifolia</i>	—	—
Carpinian	<i>carpathica</i>	Carpinian Mt.	—

Species for Ornament, Shelter &c.

Eng. Name.	Bot. Name.	Eng. Name.	Bot. Name.
Oval-leaved	<i>ovata</i>	European	—
Alnus	<i>viridis decand.</i>	—	—
Shrubby	<i>fruticosa</i>	Siberia	—
Glandular	<i>glandulosa</i>	N. Amer.	—
Hairy-dwarf	<i>pumila</i>	—	—
Smooth-dwarf	<i>nana</i>	Scotland	—
Var. large-leaved	<i>macrophylla</i>	—	—
Dark	<i>tristis</i>	Kamtschatka	—

HORNBEAM-TREE

MALE FLOWER—*ament*, imbricated; scale of the calyx, ciliate; corolla, none; stamens, ten. FEMALE FLOWER—*ament*, imbricated; scale of the calyx, two-flowered; corolla, three-lobed; seed, a nut, ovate, angular, furrowed.

Time of sowing the seed—Autumn. Soil—Poor clayey loams, incumbent on sand, and chalky gravels, are well adapted for the growth of the horn-beam. Uses—The wood of the hornbeam, as its name would imply, is extremely tough, or flexible, and hard, and valuable for many useful purposes; but the tree being chiefly cultivated for underwood, few opportunities are offered to the carpenter to prove its value in large scantling. Its value for every purpose where the properties above mentioned are essential, such as mill clogs, heads of beetles, stocks and handles of tools, yokes, &c. is well known. Like the beech, it is good fuel, makes superior charcoal, and affords excellent potash. It grows in exposed situations, and on very poor, cold, thin, damp soils, where many other species of forest-trees would make little progress. The leaves continue to adhere to the branches long after vegetation in them appears to have ceased. This property renders the plant valuable for the purposes of shelter, whether when singly planted or in rows, to be cut as a hedge. On soils of the nature mentioned, the hornbeam should always have a place, if not exclusively, at least in a considerable proportion to other species of trees. The varieties of the common hornbeam, mentioned below, are not otherwise interesting to the forest-planter than as regards the effect of foliage, and as subjects illustrative of the laws of vegetable economy.

The American hornbeam is found wild as far north as Nova Scotia, New Brunswick, and Lower Canada. By the French inhabitants of Upper Louisiana it is called *Charme*. It never exceeds thirty feet in height, and its more ordinary dimensions scarcely entitle it to rank as a timber tree. The trunk is similarly fluted as that of the foregoing species.

Eng. Name.	Bot. Name.
BIRCH-TREE.	BETULA.

Monoclea Polyandria. Linn.

MALE FLOWER—scales of the *ament*, imbricated, shield-shaped, and three-flowered; calyx, one scale; corolla, none; stamens, ten to twelve. FEMALE FLOWER—*ament*, imbricated; scales of the calyx, two-flowered; corolla, none; seed, one, winged.

Time of sowing seed—Autumn or spring; to be kept in dry, cool sand, from the time it is ripe until it is sown. Soil—The birch will grow in every description of soil, from the wettest to the driest. Uses—The wood is chiefly used by the wheelwright and turner; it affords good charcoal; its soot is esteemed as ingredient in printers' ink; the bark is of use in dyeing wool yellow; but the chief use of the tree is for underwood. The spring sap of the birch-tree has a saccharine quality, and is sometimes made into wine. The weeping birch is a very ornamental plant.

The common birch is found in the highest latitude or limits of the growth of trees. In the 70th degree of north latitude, its stature is reduced to that of a shrub, and it is singular that the opposite extreme of a warm or dry atmosphere has a similar effect in preventing its growth. Michaux assumes the 15th parallel as the limit below which the common birch is only accidentally found in forests, unless on high elevated sites where the temperature is sufficiently low. Although the merits of the wood of the birch will not allow of its ranking as one fit for planting on soils where the more valuable forest-trees will attain to due perfection of growth, yet for certain poor elevated soils it is highly valuable, and on very wet or springy land it will be productive; there are instances known of its produce on soils so poor as scarcely to carry any thing else but moss, affording in ten years' growth the value of ten pounds per acre. In the northern parts of Europe it attains to seventy feet in height, and two feet in diameter. In Sweden, Norway, and Finland the inhabitants avail themselves of its wood, bark, leaves, and sap, for a great variety of economical uses, for almost all the implements of husbandry, elegant articles of furniture, for bows, plates, spoons, chairs, &c. The bark is used for the manu-

Timber or Forest Species.

BETULINE. *Nat. Sys.*

HORNBEAM-TREE.	CAEPIBUS.	Native of Ft.
Common	<i>betulus</i>	Britain 30
Var. Oak-leaved	<i>quercifolia</i>	—
„ Striped-leaved	<i>variegata</i>	—
„ Cut-leaved	<i>incisa</i>	— 15
American	<i>americana</i>	N. Amer. 20

Species for Ornament, &c.

Eastern	<i>orientalis</i>	Levant 12
Eng. Name.	Bot. Name.	
HOP-HORNBEAM.	OSTRYA.	
Common	<i>Polandria</i>	Linn.

MALE FLOWER—ament, imbricated; *calyx*, one scale; *corolla*, none; *filaments*, ramose. FEMALE FLOWER—ament, naked; *calyx*, none; *corolla*, none; *capsule*, inflated, imbricated; *seed* one at the base.

Propagated in England by grafting on the common hornbeam and by layers. *Uses*—The wood of the hop-hornbeam, or iron wood of America, is heavy, compact, and tough, and is used in America, Michaux informs us, for levers, brooms, and scrubbing brushes; the latter are made by rolling back very thin slices of the wood, adhering to a piece of suitable dimensions. In America it is considered a tree of the third order as to size, rarely exceeding thirty-five feet in height, and twelve or fifteen inches in diameter. It is never found in masses; but scattered in the forests, and is more common near Lakes Ontario and Erie, than elsewhere. The Virginian or flowering hop hornbeam attains to a greater height than the former. It is a more ornamental tree, the leaves being larger and of a finer tint of green; the value of the wood is similar to that now mentioned.

Species for Ornament, &c.

HOP-HORNBEAM, OR IRON-WOOD.	OSTRYA.	Native of Ft.
Common	<i>vulgaris</i>	Italy 20
Virginian	<i>virginica</i>	N. Amer. —

CUPULIFERÆ. *Nat. Sys.*

Eng. Name.	Bot. Name.
HAZLE-TREE.	CORYLUS.
<i>Monœcia Polyandria.</i>	<i>Linn.</i>

MALE FLOWER—ament, imbricated; *calyx*, a scale; *corolla*, none; *stamina*, eight. FEMALE FLOWER—*calyx*, two-parted, lacerated; *corolla*, none; *styles*, two; *seed*, an oval nut, fixed in the calyx, which remains permanent.

Time of sowing seed—February: should be preserved in sand moderately dry, during the winter. If the fruit be an object, the best kinds must be propagated by layers. *Uses*—Underwood or coppice, which, being of under size, is applied to the purposes of making hoops, spars, forks, hurdles, withes, wattle, crates, &c., for which it is esteemed. It may be cut every seven years. Mr. Belcher, in Young's Annals, vol. viii. p. 186, mentions, that in Kent the best soil for the filbert is a strong loam, the fruit produced on which is large and not maggoty; and that an acre has sometimes been sold for 50l. They are generally planted at 12 feet apart, the intervening ground being occupied with green crops, the culture of which requiring the frequent use of the hoe, is productive of benefit to the filbert plant, which is kept pruned to the height of six feet, and the diameter of the bush thus formed to about the same dimensions. The Constantinople hazle attains to the size of a tree. It was introduced into England in 1665, by Mr. John Rea. Linnæus mentions a very large tree of it in the Leyden Garden, in 1736, sown there by Clusius, above a century before. It is too much neglected by planters in England. The raceme or fruit-bunch is very large in this species, and the individual nuts are twice the size of those of the common hazle.

Species for Ornament, &c.

HAZLE-TREE	CORYLUS.	
Common	<i>avellana</i>	Britain
Var. White filbert	<i>alba</i>	—
„ Red-filbert	<i>rubra</i>	—
„ Oval-fruited	<i>ovata</i>	—
„ Barcelona	<i>breconensis</i>	Spain
„ Cobnut	<i>gracilis</i>	Britain
„ Clustered	<i>glomerata</i>	—
Lambert's	<i>luteola</i>	S. Europe
Dwarf American	<i>humilis</i>	N. Amer.
Cuckold	<i>americana</i>	—
Common do.	<i>rostrata</i>	—
Constantinople	<i>colurna</i>	Constant.

(To be continued.)

(For the American Farmer.)

THE CURCULIO.

It has been a question whether the *Curculio* which destroys our plums and nectarines, has sagacity enough to abstain from depositing its eggs in fruit which hangs over a pavement, or other place where its larva must perish? and the following extract of a letter from a late senator of the United States, will show that the affirmative may be safely taken in this case:

"I remember to have conversed with the late Col. Forrest, who was a sagacious and experienced gardener. He suggested that what Dr. Tilton had communicated to the public in regard to the Curculio had been mostly obtained from him. He had closely studied its manners; and was led to plant his nectarine trees slanting over his fish pond. The insect avoided depositing its eggs in so dangerous a situation, where its young could have no chance of escape; and then for the first time his trees ripened this most delicate of all smooth skin stone fruit." D. T.

RURAL ECONOMY.

(From the British Farmer's Magazine.)

DESCRIPTION OF THE SMITHFIELD CATTLE SHOW.

Thorpelands, near Northampton, }
January 11, 1832. }

SIR:

A friend of mine, and a supporter of your Magazine, requested, that as I should be at the Smithfield Cattle show, and he was prevented from attending, I would give you a description of it for insertion in your next number.

The show, altogether, was a very good one. I do not before recollect to have seen so many good animals in classes 1 and 2, for oxen, and class 6, for cows.—There were no animals in classes 3 and 4, for steers, and 5, for cows, that attracted notice. The show of sheep was good; but I do not take much interest in sheep, fed without restrictions, (as all the Downs are,) as, I conceive, that feeding sheep with corn or cake, can never turn to any profitable account; and therefore they ought not to have it. There were pigs, as usual, so extraordinarily fat, at such early ages, with their heads so buried in their carcasses, as to give them quite a ludicrous appearance.

The breeders of Durhams viewed the exhibition of cattle with much satisfaction, for, although there were very fine Hereford oxen, there was a greater number of fine Durhams.

Persons not from home are apt to fancy their geese swans. Graziers and breeders of cattle ought to attend the shows within their reach, to prevent their falling into this error. I showed a Hereford ox in class 3, and a Durham in class 4, at the last Smithfield show. I got commendation, but, as I expected, no prize. With these animals I got prizes at Lord Althorp's show at Brampton, in September; but getting prizes at country shows, and at Smithfield,

where you have to contend against all England, are two very different things. Besides, I have not that very superior pasture land which some of my grazing friends have, who occupy pastures in Stanton Low, near Stony Stratford, and in the rich vale of Aylesbury. When I have contended against such, it has been by keeping animals in the house all summer, which I do not like, as it is a great deal of trouble, and an enormous expense. For good winter stall feeding, I will yield to no one, having good hay and oil-cake, and as fine crops of Swedish turnips and mangel wurzel as the country produces. I have sent, this season, from my stalls, eighty well-fed animals to Smithfield, and have about fifty more to send.

I cannot, at all, make up my mind, and feel it will be very difficult for any other person to decidedly and justly say, which of these two—unquestionably the best of the largest breeds of cattle in the kingdom—the Durhams and the Herefords, is really the best.—As I graze both breeds, and feel assured that I have no prejudices or partialities for either, I will take this opportunity of giving my opinion of their different merits, and which, for different purposes, I prefer.—For my general grazing I like Herefords best, because I believe them to be the most hardy, and because I can, at all times, procure as many good breed ones as I want, which is not the case with Durhams. But, for stall feeding, I prefer well-bred Durhams, because I have found them to get the greatest increase of weight; to become the most evenly fat carcasses, without being patchy, (as many Herefords are apt to be); and thus paying better than any other breed, for the great expense of feeding in the stalls. This was my opinion ten years ago, and I see no reason to alter it. I have lately heard complaints from butchers, of ulcers being found in the inside of some Durhams. I fear, from observation and experience, that there must have been something wrong in the constitutions of some of the celebrated animals, from which this breed has sprung. If I am right in my conjectures, it will be necessary for the Durham breeders to pay particular attention to breeding from animals possessing good constitutions.

Wishing success to your very useful publication, I remain, sir, your obedient servant, C. HILLYARD.

MISCELLANEOUS.

["TABLETS OF RURAL ECONOMY."]—We have received a specimen number of a new agricultural journal with the above title, to be published weekly at Newburgh, N. Y., by J. D. Spalding & Co. and edited by J. W. Knevels, Esq. It displays considerable ability, and bids fair to be a valuable addition to the agricultural press of our country. By the way, the Editor has strangely overlooked some of the most valuable agricultural journals of the country in his enumeration of that class of public prints; and what is most strange, one of them is published in his own state, and is one of the very best in the United States; we allude to the Genesee Farmer, published at Rochester. The Southern Agriculturist, too, published in Charleston, S. C., is a journal of the highest standing. Besides these, there are several others of minor note, which we could add to his list. We take pleasure in laying the editor's introductory address before our readers, and shall be glad to hear that he meets with sufficient encouragement to warrant his proceeding with the publication.]

TABLETS OF RURAL ECONOMY.

The subscriber proposes to establish a periodical work under the above title, with the view of disseminating information on all points connected with American Husbandry, and more especially directed to the improvement of our Agriculture.

This number is presented as a fair specimen of what the journal is intended to be. Depending, however, upon the assistance of practical and scientific

men, it is hoped that our succeeding numbers will be enriched by the contribution of all our cotemporaries who feel interested in the cause.

A full discussion in our pages of the various theories and practices of Agriculture, is strenuously invited. It is only by such means that we can ever expect to find it based upon rational and scientific principles. The grand obstacle to such improvement is an impression that we are already in possession of the true system, and that all we need do is to make known to each district the correct practices that prevail in the others. A doubt seems never entertained that what may be judicious in one quarter, may prove useless, or even detrimental to others. In illustration of this assertion, we may refer to the important subject of Manures; in a recent number of the New-York Farmer, the great benefit of Lime is urged with great earnestness, in a letter from a gentleman at Westchester, Pa. He refers to his own practice, and that of his neighbour, as proofs of its successful application, and unquestionably its advantages are not overrated, provided the nature of the soil upon which it is recommended to be used, is taken into consideration.

In Chester county it may be a very important acquisition in the purchase of a farm to find it contains a quantity of Limestone; for experience has tested its useful effect upon the soil in that part of our country. But when this is insisted upon, without any caution or restriction, and especially when the fact of 9,000 bushels of lime having been spread upon 73 acres of land, is deemed a recommendation in an advertisement of sale, and its being held as such, is adduced as a proof of the excellence of the practice, the public ought to be placed upon their guard against an indiscriminate adoption of the suggestion. The effects of Lime are extremely uncertain, and often unaccountable. On some soils its benefits are astonishing—upon others it is totally inert, and again on others it appears detrimental.

In the 34th vol. of Young's Annals of Agriculture, may be found an enumeration of the various kinds of soil upon which the editor of that work had found it useful, ineffectual, or hurtful. On black peat earth, moory, boggy mountain land, he states the effect of Lime to be wonderful, also on other waste soils abounding with vegetable matter; likewise on rich rich black, or brown, friable, crumbling loams, on low rich meadows, soil black and full of fibres, and on ancient sheep walks on first breaking up. "All poor, thin, light soils, and others on a quarry of stone, especially limestone, that have been long in tillage, upon these lime is found to do no service. Lord Holderness found some very good land of this description (viz. stony strong land) almost ruined from a long course of liming." General St. Leger spread it on grass without any effect whatever, and the celebrated Edmund Burke tried it at Beaconsfield, on pasture, but it did no good at all. And it is a common proverb, that it may be good for the father and bad for the son; that it may make a rich tenant and a poor landlord. But while we take the liberty thus to criticise this communication in one particular, we beg leave to express our obligation to the writer, and to assure him that he has deserved the thanks of every New York farmer, in calling their attention to this valuable and hitherto neglected mineral.

This instance is a single one of the many evidences we could bring forward to prove our position. The general tone too of all articles written on Agricultural subjects indicate the prevailing opinion to be such as we have represented. How few experiments are published, and how confidently the writers announce their recipe for a great crop as infallible. A degree of scepticism, however unpalatable to an ardent mind, should reign in all such discussions.

While the principles of animal and vegetable Physiology and of Chemistry as applied to Agriculture are still so unsettled, a dogmatic style is the index of assumption too often allied to ignorance, and rather

calculated to involve in error, than to lead to success and certainty. In order to arrive at the true theory and practice of Agriculture, many favourite notions are to be sifted, many effects too hastily assigned to wrong causes are to be re-arranged; a vast field lies open for investigation and experiments without number, modified and repeated again, and again must be performed. The expediency of a publication (such as we propose) to co-operate in this great work, must be apparent. We are not aware of the existence, in this country, of more than three journals strictly devoted to Rural Economy. In the Eastern states, the New England Farmer, in this state, the New York Farmer, and in the south, the American Farmer, published at Baltimore, make up the whole number of advocates enlisted in the cause, throughout the Union. Independent of the small number of Agricultural periodicals, which leaves much ground unoccupied, it will be found that the plan upon which this work is to be carried on, will differ in some measure from the others, and therefore we do not consider it calculated to supplant or rival any of the above productions. We propose to occupy a station and preside over a department that now seems vacant. But our ability adequately to perform its duties must depend, in a great measure, upon the aid we may receive in communications from gentlemen who are zealous in the cause.—We therefore cast ourselves upon their generosity, and solicit their contributions to an undertaking, the success of which will indicate how highly they appreciate the importance of placing our system of Rural Economy upon an improved and scientific foundation.

JOHN W. KNEVELS.

MISSOURI COUNTRY.

MR. SMITH: St. Genevieve County, April 24, 1832.

Respected Sir—I have resided on my farm, eight miles from the town of St. Genevieve, for near twenty years. Having heard much of the superior advantages of the upper part of the state, I determined in the month of May last, to examine for myself. Hitherto it appears that the far greater part of the emigrants to Missouri have settled themselves on the western and northern sides of the Missouri river, and the borders of the Mississippi, above the junction of the Missouri as high up as the frontiers.

The soil in this beautiful region is generally rich, and in many counties productive almost beyond belief. The farmer cultivates hemp, tobacco, Indian corn, flax, potatoes, besides all the culinary plants of which the climate admits.

This fertile section of the state is interspersed with prairies, indeed one half at least appeared to me natural meadows, around which the farmer has placed his residence, for facility of improvement, convenience to wood, water, and range for his stock, consequently great numbers of horned cattle, horses, mules and hogs are reared: drovers from the Atlantic and southern states penetrate every section of the country annually, purchasing and driving off to distant markets great numbers. The balance is generally taken to New Orleans by the farmer himself. To me who had never seen one of those natural savannahs, the sight in the month of May was truly grand and imposing; as far as the eye could reach nothing was to be seen to obstruct the vision but straggling herds of cattle. Now and then clumps of trees rose to view like islands in a waste of waters; its gently undulating surface covered with the luxuriant herbage, flowers of every variety, colour and beauty, were all combined to produce the most pleasing and grateful feelings toward Him who is the bounteous bestower of all good and precious gifts. It is in such scenes and seasons that the heart most deeply feels the goodness of Providence, and the works of God become the chain by which we feel connected with the Creator of heaven and earth.

After a careful examination of this part of the state, I crossed the Missouri at Jefferson City, and took the

route to the southern counties. The whole distance to Washington county is bleak, barren and mountainous. The lovers of alpine scenery here enjoy some of the most sublime and magnificent views in nature. To compensate in some measure for the unproductiveness of the soil, it has boundless stores of mineral wealth, particularly iron ore, is well watered by the Osage, Gasconade and Merimac rivers, and their numerous tributary streams. One branch of the Merimac leaps, as it were, from the bosom of the earth, a bold large creek on which the enterprising Mr. Massey has erected extensive iron works. It is said the iron manufactured by him is of a very fine quality. From the time you enter Washington county, proceeding southwardly and eastwardly, the broken and precipitous declivities gradually subside, and the slopes of the hills become more and more adapted to agriculture, until at last they terminate in the rich flat alluvial soil of Scott, New Madrid, and Wayne. I visited in succession the counties of Washington, Jefferson, St. Francis, Madison, Perry, Cape Girardeau, Wayne, Scott, and New Madrid; and returned to my residence in St. Genevieve.

Over this extensive surface, Providence has scattered its gifts with lavish profusion, rich in inexhaustible beds of iron ore, lead, copper, zinc, &c.—Numerous living fountains of pure water, large streams furnishing water power to any extent, with a sufficiency of good and various soils and timber, facility of navigation, proximity to market, and mildness of climate, furnish at a glance some of our advantages.

It is my candid opinion, Mr. Editor, that the southern part of Missouri is preferable to that to which the tide of emigration is rapidly pressing at present. The navigation of the Missouri is difficult and dangerous, rolling its dark and turbid waters in sullen majesty to its junction with the Mississippi. It is much interrupted by snags, and ever shifting sand banks. The origin of this river being in mountainous regions and high northern latitudes, its navigation is generally closed from December until March by ice.—Whilst the inhabitants living on the Mississippi below the mouth of the Missouri can descend, nearly at all times, with their various products to New Orleans.

I forbear to say any thing about St. Louis and its adjoining counties. The advantages which they possess are so obvious that they need only to be visited to be properly appreciated. Indeed St. Louis bids fair to become one of the largest inland towns in the western country. An account of the several counties I visited, their soils, water power, minerals, &c., shall be given in some future numbers. In the mean time, farmers wishing to enter into the culture of cotton, tobacco, hemp, corn, wheat, or the raising of stock; mechanics or others wishing to embark in the iron business, or the building of mills, or any kind of machinery moved by water power, can have exact information furnished them by writing (post paid) to Doctor Lewis F. Linn, or Joseph Herich, of St. Genevieve.

A. B.

ISABELLA GRAPES.

The editor of the New-England Farmer was recently presented, by Mr. James Hunewell of Charlestown, with a box of Isabella grapes in the finest order, which had been packed in dry saw-dust, since last October. They should be spread on the floor and slightly dried before they are packed. We frequently see foreign grapes, even at this season, exposed for sale, in this city. The season is approaching, when it will be advisable for those who are desirous of enjoying the bounties of Providence, in the season when the rigidity of the weather has arrested those functions of the vegetable kingdom, on the operation of which fructification consists.—N. Y. Farmer.

Baz Wood—is used in Paris instead of hops in making beer. A sudorific bitter substance has been obtained from it, called Buxinia.

Prices Current in New York, May 26.

Beeswax, yellow 18 a 20. Cotton, New Orleans 10½ a 13; Upland, 5½ a 11; Alabama, 9 a 11½. Cotton Bugging, Hemp, yd. 14½ a 17; Flax 13 a 14½; Flax, American, 7 a 8. Flaxseed, 7 bush, clean —; rough —; Flour, N. York, bbl. 5.50 a —; Canal, 5.68 a 6.00; Balt. Hwd-st. 6.00 a —; Rhd. city mills 6.12½ a —; country, 5.50 a —; Alexandria, 5.56 a 5.75; Fredericksburg 5.37½ a —; Peters, 5.43 a —; Rye Flour, 4.00 a 4.12½; Indian Meal, per bbl. 2.87 a 3. —; per hhd. 14.00 a 14.25; Grain, Wheat, North, 1.18 a 1.20; Vir. 1.12 a —; Rye, North, 74 a 82; Corn, Vel. Nor. — a 60; Barley, — a —; Oats, Sth. and North, 45 a 52; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess 9.00 a 10.00; prime 5.37½ a 6.00 cargo — a —; Lard, 7½ a 9; Pork, mess, bbl. 12.50 a 13.75; prime 10.25 a 18.51.

DEVON CALVES.

For sale, if taken immediately, a full blood Devon Bull calf, 4 weeks old. Price \$30.

Also, a three-quarter blood Devon Heifer, same age. Price \$20.

Both these are beautiful animals, and will not be sold at these prices unless taken immediately.

Address I. I. Hitchcock at this office. May 18. It.

IMPROVED CATTLE AND SHEEP.

A few Calves half blooded Durham Short Horn and half Devon—Price \$50; and half blooded Southdown, and three-quarter blooded Merino Sheep—Price \$10, for sale. Apply to I. I. Hitchcock, at the Office of the American Farmer.

DURHAM SHORT HORN BULL CALF.

A full blood improved Durham Short Horn Bull Calf, by Gloucester, out of a first rate thorough bred Cow, four months old, well formed, of good size and points, for sale by the Editor of the American Farmer. Price, if immediately taken, \$150. Apply to I. I. Hitchcock, office of the American Farmer.

VALUABLE COW AND CALF FOR SALE.

A COW, six years old, with a young BULL CALF, of the celebrated Teeswater and Holderness Breeds, will be sold cheap if immediate application be made. The ancestors of these animals, (a full bred Holderness Bull, and two full bred Teeswater Heifers) were brought to this country by Richard Parkinson, of Doncaster, (England) and their progeny have been kept unmixed to the present time. This cross is said to be the origin of the Short Horn Durham Cattle. The breeder of the Cow and Calf, (in whose possession the breed has been since their arrival from England,) prefers this race, as milkers, to any other. The Calf is a fine formed animal two months old. Apply to I. I. Hitchcock at the Office of the American Farmer. June 1.



CORN CULTIVATORS, HARVEST TOOLS, &c.

The subscribers have prepared a good stock of CORN CULTIVATORS, both wrought and cast tines; GRAIN CRADLES, with best quality warranted Scythes attached; GRASS SCYTHES and SNEADS ready hung or separate; Steel Hay, Grain, Manure FORKS and improved Wheat Fans. They are also now manufacturing and preparing to furnish Lane's Patent THRASHING MACHINE at \$75. Horse Powers \$75, which, together with their usual stock of Ploughs and other Agricultural Implements, are offered for sale on accommodating terms.

Also a supply of SWEET POTATO ROOTS, for planting. SINCLAIR & MOORE, Grant street, near Pratt street wharf. June 1.

AMERICAN MANUFACTURED SILK.

The subscriber having now established his throwing mill on a good water privilege, and having several bales of raw silks in different stages of preparation by competent workmen, will be able to supply orders from any part of the United States, for thrown silk, whether singles, tram, or organzine prepared for weavers' use. Silk Suspender Webbing, Furniture Bindings, Fringes, &c. are manufactured by the subscriber equal to the best imported. Orders are respectfully solicited.—Stocking Weavers supplied on reasonable terms.

J. H. COBB,

Dedham, Massachusetts.

June 1.

WOOL.

LYMAN REED, COMMISSION MERCHANT, No. 195 Baltimore Street, Baltimore, grateful for the patronage of his friends and the public, again tenders his services, assuring them that any consignments of WOOL, forwarded to him for sale, will receive particular attention. He wishes individuals to bear in mind the fact, that his time and attention are devoted entirely and exclusively to the sale of WOOL on commission only. Therefore on every consignment of Wool forwarded to him the utmost exertions will be made to promote the interest of his consignors. His time being devoted entirely to the article, and having had many years' experience in the business, he flatters himself that he can render more satisfactory sales, than persons unacquainted with the value and various grades and qualities of the article. He is weekly furnished by regular correspondents in Boston and New York, with a price current, and correct information of the value in those markets; and whenever better prices can be obtained there, he has arrangements made with experienced and responsible houses in those cities, to receive and dispose of any consignments which he may have orders to forward to those places.

All letters addressed to him (post paid,) asking information respecting prices, &c. will receive immediate attention.

L. R. has leave to refer to

Tiffany, Shaw & Co. } Baltimore.

Cobb, Wyman & Co. }

David H. Thompson, Frederick, Md.

G. W. Rutter & Co. Uniontown, Pa.

Zane & Pentony, Wheeling, Va.

Isaac Hoff, Winchester, Va.

Allison Owen, Cincinnati, Ohio.

Russell and Matthews, Zanesville, do.

J. Armstrong & Son, Marysville, Ky.

Liesly Combs, Esq. Lexington, do.

Muir & Wiley, } Louisville, do.

Lawrence & Anderson, }

AGRICULTURAL IMPLEMENTS AND FRESH GARDEN SEEDS.

The subscriber offers at his store and manufactory, No. 36 Pratt street, between Hanover and Charles streets, a great variety of AGRICULTURAL IMPLEMENTS, consisting of his Patent Cylindrical STRAW CUTTERS; Gideon Davis' Patent PLOUGHS, with east and wrought shares, and Castings for the same to supply those worn out; Substratum and Shovel Ploughs; Harrows; Robbin's Patent Corn Planter; Corn Cultivators, Corn Shellers; Wheat Fans; Wire Safes, Hay and Manure Forks, by the single or dozen; Grass and Grain Scythes; Grain Cradles; Hay Rakes, Mattocks; Picks and Grubbing Hoes; Weeding and Hilling Hoes. A variety of Garden and Horticultural TOOLS, &c. &c. Those articles manufactured by himself special pains have been taken to procure the best materials and to have the work executed in the best manner.

Also, a great variety of GARDEN SEEDS, both European and American, and all of last year's growth, embracing a great variety of Beans, Cabbages, Radishes, late Peas, Bene Seed, &c. &c. And the following FIELD SEEDS, viz: Tall Meadow Out Grass; Lucerne, of Prime Quality; Mangle Wurtzel, Ruta Baga; Large Yellow Pumpkin, by the quart or bushel; and White Italian Mulberry SEED, of prime quality.

Just received from Europe a supply of Fresh LUCERNE Seed of prime quality, which will be sold at market price; and also a quantity of White Italian Mulberry Seed fresh and of fine quality, at 50 cents per ounce. J. S. EASTMAN.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—An advance in the prices of flour and wheat will be noticed—it is occasioned principally by the smallness of the receipts. The wagon price of Howard street flour is \$5.50, and in some cases \$5.62½ has been paid. Dealers generally refuse to sell even at quotation. Corn will command a cent or two above our quotations if now in market, but a few cargoes would promptly reduce them to the present rates.

TOBACCO.—Seconds as in quality, 3.00 a 5.00; do. ground leaf, 3.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 5.00; wrappery, suitable for cigars 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 15.00 a 19.00.—Fine yellow, 18.00 a 22.00.—Virginia, 4.00 a —Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 1044 hhd. Md.; 59 hds. Ohio; and 7 hds. Penn.—total 1110 hds.

Flour—best white wheat family \$6.75 a 7.25; super Howard-street, 6.62½ a — city mills, 5.75 a — Susq. 5.25 a —; CORN MEAL bbl. 3.50; GRAIN, best red wheat, 1.10 a 1.20; white do., 1.00 a —; SUSQ. — a — CORN, white, 46 a 47 yellow 47 a 48; RYE, 60 a — OATS, 35 a 36.—BEANS, 75 a 80.—PEAS, 65 a 70.—CLOVER-SEED — a — TIMOTHY, — a — ORCHARD GRASS — a — Tall Meadow Out Grass — a — Herd's, 75 a 87½.—Lucerne — a 87½ lb.

BARLEY.—FLAXSEED 1.50 a 1.62.—COTTON, Va. 8a10½.—LOU. 9 a 13.—Alab. 8 a 11½.—Tenn. 8 a 10; N. Car. 8 a 10.—Upland 5 a 11½.—WHEAT, hds. 1st p. 28; in bbls. 20 a — Wool, Washed, Prime or Saxony Fleecce 50 a 60; American Full Blooded, 45 a 50; three quarters do. 40 a 45; half do. 35 a 40; quarter do. 30 a 35; common 25 a 30. Unwashed, Prime or Saxony Fleecce, 30 a 35; American Full Blood, 27 a 30; three quarters do. 25 a 27; half do. 22 a 25; quarter do. 20 a 22; common, 17 a 20.

Hemp, Russia, ton, \$25 a 230; Country, dew-rotted, 53 a 54. Sc. lb. water-rotted, 7 a 9c.—Feathers, 36 a 57; Slat Paris, per ton, 4.00 a —, ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 30.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Svs. sution, 72.50 a 80.00.—Prime Beef on the hoof, 5.75 a 6.50.—Oak wood, 3.25 a 3.50.—Hickory, 4.50 a —.

CONTENTS OF THIS NUMBER.

Editorial; Cheat; Nice and Delicious Spinage—Splendid Work—Mountain Rice, Inquiry—Inquiry, How to Destroy Bugs on Water Melon Plants, and to Cultivate the Water Melon—French Fire Proof Cement—The Dairy; Situation of the Dairy; The Nature and Properties of Milk; The Making and Curing Butter, Milk—Gleaner's Reply to Dr. Muse on Cheat—On the Comparative Merits of the Drill and Broad-cast System for Turnips—Planting; Enumeration of the Different Species of Forest Trees—To Prevent the Ravages of the Curculio—Description of the Smithfield Cattle Show, Relative Value of the Durham and Hereford Breeds of Cattle—New Agricultural Periodical Publication, Tablets of Rural Economy; Editor's Address—An Account of the Missouri Country—Isabella Grapes—Box Wood—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

AGENTS FOR THE AMERICAN FARMER.

The following persons are authorized to act as Agents for the American Farmer in their several places of residence:

Boston, John B. Russell, N. E. Farmer Office.
New-York, J. H. Gourlie, at the Post Office.
Philadelphia, J. D. & C. Landreth, Chestnut street.
Washington, D. C. P. Thompson.
Washington, D. C. Coale & Co.
Fredericksburg, Va. Wm. F. Varnum, Post Master.
Petersburg, Va. Thomas Coleman.
Richmond, N. C. Joseph Gales & Son.
Camden, S. C. P. Thornton, Post Master.
New Orleans, Wm. McKim.
Nashville, Tenn. Eichlammer & Norrell.
Natchez, Miss. Frederick Staunton.
Port Gibson, Miss. Passmore Hoopes.
Salem, N. J. H. H. N. J.
General Agent for the State of Maryland, T. D. Brennan.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, basement of Barnum's City Hotel,) by I. IRVINE HITCHCOCK.

Printed by John D. Toy, corner of St. Paul and Markets streets.

THE FARMER.

BALTIMORE, FRIDAY, JUNE 8, 1832.

SYLVA AMERICANA.—We are indebted to the publishers for a copy of a new and excellent work, entitled, "Sylva Americana, or a description of the Forest trees indigenous to the United States, practically and botanically considered, by D. J. Browne." Published by William Hyde & Co. Boston. This book is particularly interesting to agriculturists, as it contains full and practical information on the nature and mode of culture of forest trees, including those for ornament and timber. The descriptions of trees are generally illustrated by excellent engravings, representing the leaves and seeds, carefully exhibiting such peculiarities as distinguish them from all others of the same genus or species. These engravings amount to something upwards of one hundred, and so far as we have been able to compare them with original subjects are very correct. They are not colored, but are so beautifully drawn as to obviate the necessity of coloring in a great measure. From these engravings any person will be able to identify the different trees at a glance. The descriptions of trees are concise and given in plain terms, thus adapting the book to the particular use of agriculturists, who are not generally deeply versed in botanical terms.

The book is divided into three parts, the first of which is devoted to vegetable physiology, or a treatise on the nature and constitution of plants, comprehending their anatomy, diseases, food, &c. The second part is devoted to the description of forest trees, with drawings of their external appearance, and comprehends all the trees in the United States used as timber or for ornament, with a notice of the qualities of the timber and the particular uses to which it is applied in the arts. The third part contains a concise but excellent treatise on *Arbiculture*, or the culture of trees, comprehending a notice of the different modes of rearing forest trees; description, nature and formation of earths and soils; geological structure of the globe; modes of transplanting forest trees; management of nursery and plantation; propagation by suckers, layers, cuttings, grafting, budding, and seeds; classification and nomenclature, tabular view, and qualities of soils, with the mode of discovering them botanically, by chemical analysis, and mechanically; the proper situations for the growth of forest trees; modes of pruning; season for felling timber; process of barking, &c., with an appendix, containing Bull's table of the comparative quantities of heat evolved in combustion of the principal varieties of wood used for fuel in the United States. A glossary of such technical terms as could not be avoided, is given; and a copious index to the whole, with a triplicate index to the second part, giving the Latin and English names, the English and Latin, and the provincial, or common, all alphabetically, with a beautiful and appropriate frontispiece. The whole comprised in one volume, octavo, of 400 pages.

From this description of the book our readers will be able to form an opinion of it. For ourselves, although we possess an excellent copy of Michaux's North American Sylva, we consider it a valuable acquisition to our library. Michaux's splendid work is nearly or quite out of print, and it is not probable that it will be reprinted, at least in its present form, being entirely too expensive for general use. The work under notice is a good substitute for it, and in many respects superior to it, as it comprises the treatises on vegetable physiology and arboriculture, while Michaux's is generally confined to the description of trees.

We have said that this book was particularly interesting to agriculturists, but it is also to every class of citizens. "In the United States," the author remarks in his preface, "there are more than 140 spe-

cies of forest trees, which exceed 30 feet in height; in France, there are but thirty trees that attain this size, of which 18 enter into the composition of the forests, and 7 only are employed in building. Though vast tracts of our soil are still veiled from the eye of day by primeval forests, the best materials for building are nearly exhausted. And this devastation is now become so universal to supply furnaces, glass houses, factories, steam engines, &c. with fuel, that, unless some auspicious expedient offer itself, and means be seriously and speedily resolved upon, for a future store, one of the most glorious and considerable bulwarks of this nation will, within a few centuries, be nearly extinct. With all the projected improvements in our internal navigation, whence shall we procure supplies of timber fifty years hence for the continuance of our navy? The most urgent motives call imperiously upon our government to provide a seasonable remedy for such an alarming evil: from a government like ours, which is a faithful expression of the public will, and which has no concern but the prosperity and honor of the nation, prospective wisdom is demanded."

"From the sensible decay and general havoc made in our forests," the author continues, "we should be reminded, that such as do yet remain entire may be carefully preserved, and the loss of such as are destroyed, sedulously repaired. There is no part of husbandry which men more commonly neglect than that of planting trees, without which they can neither expect fruit, ornament or delight from their labors. But they seldom do this till they begin to be wise, that is, till they grow old, and find by experience the prudence and necessity of it. When Ulysses, after a ten years' absence, was returned from Troy, and found his aged father in the field planting trees, he asked him, 'Why, being now so far advanced in years, he would put himself to the fatigue and labor of planting that, of which he was never likely to enjoy the fruits?' The good old man, taking him for a stranger, gently replied, 'I plant against my son Ulysses comes home.' The application is obvious, and instructive both to old and young."

Agriculturists as one class, and all other citizens as another, are interested in the preservation and culture of forest trees, in the same manner they are in the culture of bread stuffs; the one in furnishing, and the other in receiving the supply. To the first it is a subject of profit, and to the latter a matter, next to food, of first necessity. They are both therefore deeply interested in it, but the agriculturist doubly so, as he is also a consumer and therefore a member of the second class, as well as a producer, and a member of the first class. To him, therefore, the Sylva Americana is a valuable manual, and we most earnestly recommend it to his attention. We observe the book is for sale at the office of the American Farmer, and at Joseph Jewett's book store, Market street.

COTTAGE FLOWER GARDEN.

PEONIES.—Whiteji and Rubescens, now in full bloom, the former pure white, very large and double; the latter very light blush, very large and single.—Both of these peonies are fragrant.

(From the Baltimore Patriot.)

MR. EDITOR.—We have noted with great pleasure that Admiral Cochrane has just committed to the care of the Messrs. J. & F. WINSHIP, of Brighton, Mass., many hundred of the choicest productions of the best English Gardens; because we are persuaded that this mark of regard for his native land could not have been confided by that benefactor of our country, to heads or hands more capable or willing to fulfil his benevolent purpose.

To the care of those gentlemen our country will soon be generally indebted for a valuable fruit—propagated from a seed not many years since forwarded to the former editor of the American Farmer, by a gallant officer of our army, the lamented Col. SNELLING,

who obtained it from an Osage Indian, who called the fruit the *Buffalo Berry*. The Tree which these gentlemen raised from it, is most beautiful and productive. It is more than ten feet high, the diameter of its trunk exceeds six inches, the bark is very smooth, its head begins to form at five feet from the ground, its limbs are very numerous but symmetrical—its foliage is thick and brilliant, and the fruit wood so abundant that the cluster of berries, which much resemble currants in growth and flavor, but are very superior, appear to be almost innumerable.

From the fruit of this tree they have since raised many seedling plants, some of which, we understand, were sent, for sale, to Mr. GIBSON B. SMITH, of Baltimore, the present editor of the American Farmer.

The Messrs. WINSHIP now have at their Flower and Horticultural Garden and Nursery countless varieties of the most valuable Trees, Vines, Shrubs and Plants, of our own and foreign countries, which they ship from Boston, at the most moderate prices, upon the shortest notice. Their collection is not second to any in our country, as will be acknowledged by whosoever shall examine it, as the writer did two years ago, at the polite invitation of its enlightened, enterprising, hospitable and worthy proprietors.

J. W. McC—, of Baltimore.

Hogs.—The Chinese have a proverb, that "every gentleman in China works for his living except the hog." We make *him* work in Illinois. When a chimney is to be built, or a cabin to be daubed, a hole is dug in the earth, of sufficient dimensions, and water poured into it—the hogs are then called, and a few grains of corn thrown into the hole, when the hogs plunge in and soon prepare the lump of clay for the hand of the dauber.—*Western Ploughboy*.

Durability of Vegetable Life.—Perhaps the most extraordinary fact on record with regard to the durability of vegetable life, and one that we can seldom expect to meet with, says Dr. G. Rees, (in his recently published lectures on carbon, oxygen and vitality,) occurred some years ago in the dissection, or rather examination of an Egyptian mummy, which had probably been preserved 3000 years, in the hand of which was found a bulbous root; this was put into the ground, and found to vegetate as fresh as if it had been recently transplanted.

FOREIGN MARKETS.

LIVERPOOL COTTON MARKET.

Thursday, May 3, 1832.—The sales of the week are 12,000 bags; in prices there is no material alteration. The arrivals are four vessels from the United States and three from Brazil.

LIVERPOOL CORN EXCHANGE.

Friday evening, May 4.—Our supplies from Ireland have fallen off considerably, and those in this week from other sources, are very insignificant; but the quantity of most articles offering from granary being tolerably large, and the buyers disposed to remain inactive, the transactions on the whole, from Tuesday until to day, were limited, and the general quotations of our last circular scarcely maintained.

At our market this morning, all descriptions of wheat continued to be taken off sparingly, and although from the short supplies coming forward, some holders of good qualities firmly adhered to former prices, a decline of 1d. per 70lb. was partially conceded, and for inferior samples rather more.

LIVERPOOL, MAY 5.

Cotton.—The import this week is 6939 bags, and the sales are 14,700 bags, including 1000 Americans taken for export, at last week's prices, save for Sea Islands and Surats, which at a public sale yesterday went off at a decline of fully 4d per lb. viz.—1060 Sea Islands 104d a 144d; 220 Sained do. 5 1-8d a 10d; 6640 Bowed, 5 5-8d, 7 3-4d; 1550 N. Orleans, 61d a 8d; 1800 Alabama, &c. 6d a 61d.

AGRICULTURE.

(From the Library of Agricultural and Horticultural Knowledge.)

THE DAIRY.

(Concluded from page 91.)

IV. PROCESS OF CHEESE MAKING.

The production of cheese embraces the following particulars:—

1. The season.—2. Periods of milking, and the qualities of the milk.—3. Preparation of the rennet.—4. The choice of colouring matter.—5. The setting, breaking, and gathering of the curd.—6. Management of the cheese in the press, manner of salting, and management in the cheese room.

1. The Season.—The best season for making cheese is when the cows can be fed in the pastures, from the beginning of May until the end of September. In Gloucester the season continues from April till November, May and June being the principal months.

2. Periods of Milking and Qualities of the Milk.—The times at which milking is performed in Cheshire, during summer, is at six o'clock, morning and evening; during winter, as soon as light, and before dark commences. In Wilts and Suffolk it is begun by four in the morning, and therefore over before the heat causes the cow to become restless and uneasy. The milk should be put into pans immediately, that it may be expeditiously cooled.

The goodness of the cheese depends principally on the richness and quality of the milk. A one-meal cheese is so termed when the whole of the produce of one milking is employed, in its simple state, for the production of the cheese; but sometimes the cream, either wholly or in part, is removed from the first milking or meal, and blended with the whole produce of a second milking, and a cheese thus obtained is termed a two-meal cheese.

The operation of cheese making commences after the morning's milking is completed. To make cheese of the best quality, and in the greatest abundance, the cream should remain in the milk. Where two milkings are put together, the cream of the evening's milk is skimmed off, and the milk put into the cheese tub, reserving some proportion to be made scalding hot; one half of which is poured into the cheese tub, among the cold milk, and the other into the pan where the cream is put; these being incorporated, the whole is poured into the cheese tub, where the morning's milk is put, warm from the cows, when the rennet is applied in the usual manner.

3. Preparation of the Rennet.—The stomach of all animals secretes a fluid, which is called the gastric juice, which possesses the property of converting milk into curd and whey. What is known, therefore, as rennet, is nothing more than the stomach of a calf, in which the gastric juice is preserved by a process which we are now about to detail.

Three pints or two quarts of soft water, mixed with salt, wherein is put sweet brier, rose leaves and flowers, cinnamon, cloves, mace, and almost every spice and aromatic that can be procured, are to be put into two quarts of water, and made to boil gently, till the liquor is reduced to three pints, and care should be taken that it is not smoked. Strain it clear from the spices, &c. and when of the same temperature as milk taken from the cow, it is to be poured upon the bag or maw. A lemon may then be sliced into it, and suffered to remain a day or two; after which, the whole should be strained again, and bottled for use; it will keep good for twelve months or more. It will smell like a perfume, and a small quantity of it will turn the milk, and give the cheese a pleasing flavour. If the maw be salted and dried for a week or two, near the fire, it will answer the same purpose again almost as well as before.

Throughout the whole process of preparing and

preserving rennet, too much attention cannot be given to its cleanliness and sweetness, for if it be kept too long, so as to become foul or tainted, the cheese will invariably become affected by it, and will prove unfit for use. The quantity of rennet to be employed can only be ascertained by practice, but upon an average, about a third of a pint, wine measure, will be sufficient for fifty gallons of milk.

4. Choice of Colouring Matter.—Spanish annatto is unquestionably the best ingredient for colouring cheese, half an ounce of which is sufficient for half a hundred weight of cheese. The annatto, dipped in milk, may be rubbed on a piece of smooth stone, and then mixed with the milk in the cheese tub, previously to applying the rennet, and should be well stirred about, so as to be thoroughly diffused through the milk.

5. The Setting, Breaking, and Gathering of the Curd.—1. The Setting of the Curd.—It is known, from daily experience, that the warmer the milk is when the rennet is put to it, the sooner it will coagulate. It is equally well known, that the cooler the milk and the longer it is in coagulating, the more tender and delicate the curd becomes; on the contrary, if the milk be too hot, and the coagulation takes place too rapidly, the curd proves tough and harsh. But it seems to be a fact well established, that a cheese made from milk which has been coolly and slowly coagulated, is longer before it comes marketable, than one made from milk which has undergone deliberate coagulation; and which, being drier and of a harsher texture, sooner becomes cheese, and fit for the taster. Therefore the great art in this stage of the process lies in the degree of warmth of the milk when set; that is, when the rennet is put to it; and this can only be correctly ascertained by the use of the thermometer. According to Marshall, from 85 to 90 degree, of heat, and a period of two hours, are the fittest for coagulation.—This period, however, must vary according to the season, climate, and pasture on which the cows are fed. Milk produced from poor pastures requires a higher degree of heat to effect coagulation than that obtained from richer pastures. Milk can always be brought to a proper temperature, by adding boiling water, till the thermometer indicates the requisite degree of heat for the reception of the rennet.

2. Breaking and Gathering of the Curd.—The curd is at first cut or broken in various directions, with a cheese knife, to make the whey separate easily, without carrying off the richness of the curd; the broken curd is then allowed time to subside; after this, the knife is used more freely, and the unbroken curd stirred up from the bottom. The whey is then taken off with a skimming dish, the curd collected into a mass, and squeezed with the back of the skimming dish; it is then cut and pressed with the hands as hard as possible, or a weight may be applied. It is afterwards distributed into two or three pans, and broken with the hands as fine as possible, and a proper quantity of salt sprinkled over it. When it is properly broken, rubbed, and salted, a cloth is spread over the cheese vat; and the broken curd being packed into it, and covered up with the cloth, a board is laid over the vat, and a weight, heavy in proportion to the quantity, placed upon it, by which means the remaining whey is pressed out.

When the vats are large, a number of iron skewers are thrust through the sides, where, upon being withdrawn, they leave drains for the whey to run off. When that has almost ceased, so as to scarcely drop, the weight is taken off and the curd is re-broken, then placed again in the vat as before, and repeated, with a clean cloth spread over for the purpose of receiving it, while a drop of whey can be extracted.

6. Management of Cheese in the Press, Manner of Salting, and Management in the Cheese-room.—

1. Management in the Press.—When the vat is placed in the press, and the weight put on, skewers are used frequently in the course of the day, as before described; after the vat has remained in the press for

two or three hours, the cheese is taken out and put into warm or hot whey for an hour or two to harden its coat, it is next taken out and wiped dry, when it is again put in the vat and then into the press. Towards evening it is again taken out of the press, another clean dry cloth put on, then placed in the vat upside down, repeating this twice for two days, when it is finally removed.

2. Manner of Salting.—This is generally done during the pressing, by well rubbing the cheeses, each time they are taken from the vats, with salt. Large cheeses are placed into a tub where there is plenty of brine, and remain for several days; being, however, turned daily. The cheeses are then removed to the salting bench, and are carefully rubbed over daily with salt, for eight or ten days; at the expiration of which time they are washed in warm water or whey, dried with a cloth, placed on the drying bench, and finally removed to the cheese-house.

3. Management in the Cheese room.—The processes of salting and drying being completed, the cheeses are smeared over with butter, and then deposited in the cheese room, which should be both dry and airy. For the first eight or ten days the cheeses should be smartly rubbed and the butter repeated.—After that period two or three times a week will be sufficient, turning them every day. To hasten the cooling and maturity of the cheese, the temperature of the room should be warm.

According to the above details, excellent cheese may be made, and although the general management in all cases is very similar, yet the difference of pasturage and slight modifications in making up the respective meals, constitute the well known varieties which are held in repute by all classes of society. Of these we shall briefly notice the most popular, pointing out such details, as, by attention, will enable our readers to produce almost perfect imitations of those varieties most in consonance with their wishes.

1. Gloucester Cheese.—There are two kinds in the market, single and double Gloucester; the latter made from the milk and cream, the former with milk deprived of about half the cream. The single Gloucester is the less valuable, and to distinguish it from the double it is usually marked with the impression of a heart.

The following receipt for making cheese in imitation of double Gloucester, obtained for James Bell, Esq. of Woodhouselee, the first premium from the Highland Society of Scotland:

"It is material to have good rennet made from calves' stomachs, properly cured, for curdling the milk.

"The milk immediately from the cows must be put through a strainer into a tub sufficiently large to hold the quantity of milk required for the cheese intended to be made.

"Put first into the milk a quantity of the finest cake annatto, which is manufactured in London for the purpose of colouring cheese. This is done by tying it in a piece of thin muslin and immersing it in the milk, shaking it till the milk is tinged to the colour you wish your cheese to be.

"Pour into the milk a sufficient quantity of rennet to coagulate or curdle it, but not more, and allow it to stand till the curd is quite formed, when it may be cut or broke with a knife, and the whey taken out with a skimming dish. The curd must be made firmer by degrees, taking out the whey by pressing it with the hands into one side of the tub. This operation is laborious exercise for two stout dairy-maids.

"After this operation, the curd is cut into pieces of about an inch square, and put into a cloth; then put into a large wooden drainer. A weight (about half a hundred) must be then laid on the top of the cover, which presses the curd moderately.

"After remaining fifteen or twenty minutes, take the curd out, and cut it again into similar pieces, or rather smaller, putting it again into the drainer, and pressing it as before; take it out again in about twenty minutes, repeating the same process as before. Take

it out of the drainer, and put it into a tub or vessel, and cut it as small as bird's meat, with a knife made for the purpose, having three blades, which facilitates the operation.

"The curd is then salted with the best salt, and well mixed, as much as is considered necessary. It is then put into a cloth of thin gauze made for the purpose, and put into a chesill or cheese-mould, and then into the press, taking it out from time to time, and giving dry cloths, till by the pressing the cloths come off quite dry, which is the rule for knowing when it is enough pressed; but it is, perhaps, an advantage to have so many presses as to allow the cheese to remain two days or upwards. If the last cloth is of a finer texture, and dipped in warm water, wringing it before putting it on the cheese, will give it a finer skin.

It has been omitted to state, that while the curd is pressing in the drainer, it ought to be set before a good fire; and also, after putting it into the chessil, it ought to be placed there for twelve or fifteen hours, with about half an hundred weight on it, previous to putting it into the cheese press.

"The cheese, after being taken out of the press, should be laid on a tolerably dry floor, or shelves, (the former perhaps preferable,) so as not to dry them hastily. They ought, in the first instance, to be turned daily, and rubbed with a dry cloth. After becoming firm, their being turned and wiped twice a week will be sufficient. It is of great use to keep flies from coming near the cheese and breeding maggots, to rub the floors or shelves with elder or bountree leaves.

"The quantity of annatto used was one cake of about one-quarter of a pound weight, to ten cheeses, from twenty to twenty-two pounds each, and the quantity of salt about eight or nine ounces.

"One hundred quarts of milk are found to make cheese of thirty pounds, or about three quarts to one pound of cheese."

2. **Wiltshire Cheese.**—It would appear that shape and size constitute the only difference between Gloucester and North Wiltshire cheese. The following process, by Mr. Nichol, Easter House, Lanarkshire, obtained the premium of the Highland Society of Scotland, and is well worthy the attention of the reader:

"We collect two meals to one making; the evening's collection is run through a fine strainer into the milk vessels, and kept overnight; the cream is taken off in the morning, and the milk heated to the degree proper for warming the whole mass, which, with the cream and new milk, is run through the strainer into the milk-seve, (placed on a form,) and the proper quantity of colouring* rennet added, (about a table spoonful of the latter to fifty Scotch pints, when good, is sufficient.) The mass is then stirred about and well mixed, after which it is covered up, and let stand till coagulated. The dairy-maid introduces her hand into the mass, and stirs it about slowly, till it is all broken, pretty small. After standing about fifteen minutes, the edge of the tub is lifted up, and the whey run off slowly over the lip into a vessel placed below. The tub is then let down to stand a little, after which it is turned one-fourth round, and another collection emptied off. Thus, by turning the vessel a fourth round every time it is let down on the form, the curd is placed in a different position, in order to make it part with the whey more quickly.

"The process is continued till the curd has got a pretty firm consistence; it is then cut a little with a table knife, and what little whey it then parts with emptied off, and the curd lifted into the drainer.

"This method, I find, makes the whey come off quickly, and more pure than any other mode I have seen practised. We never touch it with the hand to press out the whey, as I find the least violence is apt

*The colouring to be rubbed in a bowl, with a little warm water, and allowed to stand a little, and then poured off, as even the best is found to contain sand and sediment.

to make it come off white, and so weaken the quality of the cheese.

"Being now in the drainer, (a square vessel, with small holes in the bottom, with a lid to go within it) the lid is put on it, and a cloth thrown over it, after which it is allowed to stand twenty minutes. A fourth hundred weight is then laid on, to lie twenty minutes more. It is then cut into pieces, of two inches square, with a table knife, the lid put on, and one half hundred weight laid on it, to lie half an hour.— This process of cutting it smaller every half-hour, and adding more weight till there be a hundred weight of pressure on it, is continued for four hours after the first cutting in the drainer, when it will be ready for the chesil (cheese-mould.)

"It is then put into a vessel kept for the purpose, with the proper quantity of good salt, and curried with the curd-knife very small. A clean cheese cloth, rinsed through warm water and wrung out, is then laid on the chesill, and the curd put into it, and a half-hundred weight laid on it for an hour. It is then put into the press, (constructed so as to hold four chesills, and the pressure augmented at pleasure,) with a pressure of two hundred weight, where it stands three half hours. It is then taken out, and another cloth is wrung through warm water, laid on the chesill, and the cheese turned upside down into it, and introduced into the press, with a little more weight applied, to stand all night. Next morning and ever after, it is changed four times a day with clean dry cloths, till it is properly pressed (which will take at least three days,) the weight being always augmented till the pressure be at least a ton weight. A fine round cloth, the size of the chesill bottom, is laid in it, and the cheese put into it, and set into the press for an hour and a half, in order to give it the proper shape.

"After the cheese is taken from the press, it is rubbed with salt, and turned every day for a week or ten days; after which it is rubbed with a dry cloth and turned daily for a month longer, in order to keep it from moulding; after which every other day will be sufficient. The cheese-room ought to be in rather a cool exposure, and I find it sometimes necessary to cover the new cheeses with a cloth; in order to keep them from cracking.

"As I am anxious to give every information in my power, I have taken a note of the temperatures at each making, immediately after mixing the rennet into it, from the 16th July to the end of August, and have sent the degree of heat at which each cheese in the sample sent for competition was made."

Date of marking.	No.	Description.	Herd of milk mixed directly after mixing in the room at 10 o'clock a. m.	Temperature of the room at 2 o'clock p. m.
1855. July 16	1	Imitation Wiltshire	Degrees.	Degrees.
" "	1	Gloicester	95	74
" "	2	Gloicester	95	74
" "	3	Gloicester	96	65½
" "	4	Wiltshire	91½	70
" "	5	Gloicester	91½	70
" "	6	Imitation Wiltshire,	91	
" "	7	all new milk.	94	{ Saturday
" "	8	Imitation Wiltshire	92	{ Evening.
" "	9	Gloicester	92	
" "	10	Wiltshire	92	
" "	11	Gloicester	93	
" "	12	Wiltshire	93	
" "	13	Gloicester	92	
" "	14	Wiltshire	92	
" "	15	Gloicester	97	{ Made at
" "	16	Wiltshire	97	{ 8 o'clock
" "	17	Wiltshire	94½	{ Evening.
" "	18	Wiltshire	60	

According to Mr. Sanderson, the pine-shaped cheeses made in imitation of North Wiltshire, are put into a cloth, made in the shape of a filtering bag, when the curd is quite green, and hung with the point down for twenty-four hours. They are then put into a net with a cloth over it, and again suspended the reverse way.

Cheddar Cheese—Derives its name from a vale in Somersetshire, where it is exclusively made. The cheese is of a spongy appearance, and the eyes are filled with a limpid rich oil; they usually weigh about thirty pounds each.

4. **Cheshire Cheese**—Is made from the whole of the milk and cream; the morning's milk being mixed with that of the preceding evening, previously warmed. The usual weight is about sixty pounds each.

5. **Sage Cheese**—Is made by steeping one night, in a proper quantity of milk, two parts of sage, one part of marigold leaves, and a little parsley, after they have been bruised. On the following morning the *grented* milk is strained off, and mixed with about one third of the whole quantity intended to be run or coagulated. The green and white milks are run separately, the two curds being kept apart until they are ready for vatting; these may be mixed either evenly and intimately, or irregularly and fancifully, according to the pleasure of the manufacturer. The management is the same as for common cheese. Green cheeses are made in the vale of Gloucester, as also in Wiltshire.

6. **Siltton**—May be made by the following simple process:—To the new milk of the cheese-making morning add the cream from that of the preceding evening, together with the rennet, watching the full separation of the curd, which must be removed from the whey without breaking, and placed into a sieve, until of such consistence as to bear being lifted up and placed in a hoop that will receive it without much pressure. The cheese, as it dries, will shrink up, and must, therefore, be placed from time to time in a tighter hoop, and turned daily, until it acquires the proper degree of consistence for use or keeping.

(From the Genesee Farmer.)

LEACHED ASHES FOR MANURE.

MR. GOODSSELL:

Middlesex, May 5th, 1832.

A very general prejudice exists among our farmers against leached ashes as manure. Vast quantities of them are suffered to go to waste, or lie idle in every direction about the country. I know by experience that they are an excellent manure. I have tried them on my garden and in field culture, and always with satisfactory results. They are brought in vessels from Albany, Philadelphia, Baltimore, Buxton, and New York, and deposited at the landings on Long Island, sold at from twelve to twenty-five cents per bushel, carted from six to ten miles, and used as a manure by the farmers of Long Island.

About twenty-five years ago I was on a visit to an uncle of mine, and saw him receive four dollars for fourteen bushels of leached ashes. I remarked, that the man could never hope to see his money again by spreading them on his land. He replied, *I know not how it is, but we grow rich by it.* I know many thousand acres of land on the Island which are now producing fine crops of grass and grain, which formerly were too poor to produce any thing but *correl* and *muldin*. These have principally been made fertile by means of leached ashes at this enormous cost of money and labour; and I am much at a loss to know why they are considered worthless among us, while they are in such request on the Island. They should be spread on the soil and intimately mixed by the plough, or used in compost. In either way I believe they would be found equally useful to us.

R. M. W.

Lime Water—is used for destroying worms and insects.

HORTICULTURE.

(From the Library of Useful Knowledge.)

PLANTING.

CHAPTER VIII.

Enumeration of the different species of Forest Trees.

(Continued from page 94.)

CUPULIFERÆ (subordo *thricus*). Nat. Sys.

OAK-TREE. QUERCUS.

Monacia Polyandria. Linn.

MALE FLOWER—*calyx*, bell-shaped, half five-cleft; *corolla*, none; *stamina*, five to ten. FEMALE FLOWER—*calyx*, bell-shaped, entire, rough; *corolla*, none; *style*, one; *stigma*, three; *seed*, a nut, (acorn,) ovate, cylindrical, fixed in a short hemispherical cup.

Time of Sowing—Beginning of November; or if deferred till spring, lay them upon a cool dry floor, to prevent their sprouting or vegetating. *Soil*—A rich loam, with a clayey subsoil, brings the oak to the greatest perfection; but it may be profitably cultivated on almost every description of soil, except boggy or peaty. *Uses*—The value of oak timber is too well known to need any description here. It has already been mentioned, that there are two species or varieties of the British oak, *Quercus robur*, which differ considerably from each other in the value of their timber. They are considered by some botanists as merely varieties, *Quercus robur* pedunculata, et *Quercus robur* sessiliflora; while others, as Sir James Smith, makes them distinct species, *Quercus robur* et *Quercus sessiliflora*. The footstalks of the fertile flowers, acorns, and leaves, afford the most obvious character of distinction: in the former, or more valuable variety, the footstalks of the flowers and acorns are longer, while in the inferior variety the footstalks are very short, or scarcely perceptible. On the contrary, as regards the leaves, the footstalks of the *Quercus robur* are shorter than in those of the *Quercus sessiliflora*, and the body of the leaf is likewise less equally and regularly divided. The Durmast oak, *Quercus pubescens*, has been considered a variety also, but having an inferior quality of wood, it is perhaps better to consider it a distinct species. The distinguishing character of this species is in having the under side of the leaf pubescent; in other respects it nearly agrees with the *Quercus sessiliflora*, in having the leaf and fruit stalks almost sitting, and the leaves less deeply indented. The leaves of the inferior species are also observed to hang longer on the tree; sometimes they continue all the winter, approaching to the character of an evergreen. This last distinction, however, is not always to be depended on, as the soil and health of the individual tree influence its habit in this respect. In our own experience we have by no means found this inferior species, *Quercus sessiliflora*, and its near ally to the Durmast oak, *Quercus pubescens*, so common as the foot-stalked oak, *Quercus robur*; but on the contrary, comparatively uncommon. Although there are not such clear and specific facts recorded of the comparative difference of value between the quality of these two species of oak, as to determine the exact amount of loss which is occasioned every time the acorns of the inferior species are used for planting, instead of those of the more valuable above mentioned, yet the general opinion being so strong in favour of the superiority of the foot-stalked oak, that it is of much importance to collect and sow the acorns of that species only.—We have already described the mode of rearing the oak from the acorn on the spot where it is to remain for the production of timber; the soil on which it attains to great perfection, and the best size of plants, from nursery rows, when the more general mode of rearing oak by transplanting is adopted. We have before also mentioned some oak trees remarkable for the perfection of growth they had attained; and did the limits of these pages permit, we could add greatly

to the number from specimens which were, or are now in Earl Powis's Park, near Ludlow; Earl of Surrey's, Workshop; Lord Bagot's, in Staffordshire; Lord Holland's, Amptill Park, Bedfordshire; Wicky Park, Shropshire, Dennington Park, Berkshire, in the weald of Kent, New Forest, Hampshire, &c. These two species of oak constitute a considerable portion of the forests, from the sixtieth to the thirty-fifth degree of north latitude, extending over a portion of the north of Asia, and the northern point of Africa.

The common oak is considered to be the longest lived tree of the British forests. Those in the New Forest, mentioned by Mr. Gilpin in his Forest Scenery, v. ii. p. 63, which "chronicle on their furrowed trunks, ages before the Conquest," give an idea of the very great length of existence this species of tree is capable of maintaining; but for facts, on which to found a satisfactory conclusion of the average duration of vegetable life in this, and other forest-trees, we have only the test mentioned, that of ascertaining the number of the concentric circles in the transverse section of the root, stem, or branch of the tree, and however satisfactory this test may be for this important object, it is but too seldom employed, if we are to judge by the few records of the ages of valuable trees, not only of the oak, but of all others of the first class of timber that are to be found. Were records of planting kept in the family archives of those who plant; containing the facts of the age of the plants, when transplanted to their timber sites, the nature and preparation of the soil at the period of planting, and the after culture until the trees attained to a timber size, the benefit to science and to practice would be great.

The Turkey oak, *Quercus cerris*, was introduced into England in 1739. It is a handsome growing tree, and is perhaps the most valuable species next to the British oak. It will thrive on most kinds of soil; but a strong loam is that which it most affects. The wood exhibits all the good properties of that of the common oak; but the period of its introduction into England has not allowed of any sufficient trial to determine its comparative durability. It is highly deserving of a place in every plantation of forest-trees, where the soil is adapted to the growth of the oak, elm, and chestnut. The acorns are oblong, and the cup mossy. The leaves are deciduous, and readily distinguished from those of the common oak by their ovate-oblong shape and slightly flut sinuate margins.

Michaux informs us, that there are forty-four species of oak found in America, between the 20th and 45th degrees of north latitude: of these he has described and figured twenty six species, which are all interesting for their different habits of foliage and growth; for general utility, however, there appears to be not one equal to our own native species, *Quercus robur*. The white oak before noted approximates nearer in valuable properties to the British oak than any other. In favorable situations it rises to seventy or eighty feet in height, and six or seven feet in diameter. To inquiries made to English, French, and American shipwrights, this intelligent author learnt that the general opinion agreed in the conclusion, that European oak was tougher and more durable from the superior closeness of its grain, but that the American species was more elastic, and required a shorter time, and only half the weight to bend it; and he judiciously adds, that this advantage, though important in ship-building, does not compensate for the openness of its pores. In America it is much used in the construction of mills and dams, where it is exposed to be alternately wet and dry. The wooden bridge—nearly three thousand feet long, that unites Boston and Cambridge—is supported by posts of white oak, from sixteen to twenty feet in length, which have replaced those of white pine, on which it originally stood.

The American mossy-cup oak has the lobe of the leaves so deeply indented as to give them the appearance of pinnate-leaves. The branches of the first and secondary limbs have a pendulous habit, which, with

its generally handsome top, claims for this species a place in plantations. The quality of its timber has not been proved in England. In America it attains to sixty or seventy feet in height.

The over-cup white oak is distinguished for the largeness of the leaves. In the United States they are found to measure frequently fifteen inches long and eight broad. The acorns are large, and the lips of the cup are frequently fringed with a series of flexible filaments. This tree is also deserving of a place in British plantations.

The lobed-leaved, or post oak, is a tree of a secondary size. Michaux states, that the preference given in the West Indies to the staves from Baltimore and Norfolk is due, in a great measure, to their being made of the wood of this species. It is an ornamental tree, but its merits for the produce of timber have not yet been proved in England.

The over-cup oak, or lyre-leaved, affects a moist soil, and is of a large habit of growth. The shape of the leaves and general habit of the tree render it interesting. It has not yet received in England the requisite time and culture to prove its properties for the produce of timber. In America Michaux states its height to be eighty feet, and its circumference eight to twelve feet.

The swamp oak, *Quercus discolor*, is much less common in America than many of the other oaks.—We have seen only one plant of it in England. Michaux describes it as a beautiful tree, more than seventy feet high; the leaves six or eight inches long and four broad, smooth and of a dark green above, and downy underneath. We believe this species to be nearly allied to the British durmast oak, *Quercus pubescens*.

The chestnut white, or marsh oak, *Quercus Michauxii*, is considered to be one of the most majestic trees of the American forests. It is described, according to the above, as rising to ninety feet in stature, with a straight clear stem of fifty feet, crowned with an expansive summit. The timber of it is considered inferior to the white oak, though superior to some other species. We have seen young trees only of it in England.

The rock chestnut leaved yellow oaks are as yet only distinguished for the shape of their leaves, which more or less resemble those of the sweet chestnut.—The last mentioned is considered the most interesting. The acorns are of an inferior size, but of a sweeter quality than those of the other species mentioned. The small chestnut oak rarely exceeds thirty inches in height, and ought perhaps to have been passed over here without notice; however, it is very prolific, and where acorns are in request for the food of game, pheasants for instance, this dwarf oak may be planted with advantage. The acorns are very sweet. "Of its habits in its native soil," Michaux remarks, that "Nature seems to have sought a compensation for the diminutive size of this shrub in the abundance of its fruit; the stem, which is sometimes no bigger than a quill, is stretched at full length upon the ground by the weight of its thickly clustering acorns."

The live oak, *Quercus virens*, was mentioned, as highly deserving of a trial in situations on the southern coast. Michaux remarks, that it is never found farther than from fifteen to twenty miles from the shore. The eminent success of Mr. Lucas in transplanting trees of large growth of this species selected from the woods, on his estate at Middleburg, prove clearly its vivacious habits. It appears to be confined to the southern states of North America, viz. the Floridas and Louisiana, as its natural soil and climate, extending no farther north than Norfolk in Virginia. He further mentions that in the course of four or five hundred miles between Cape Canaveral in East Florida, to Savannah in Georgia, he frequently saw it on the beach, or half buried in the moveable sands on the downs, where it had preserved its freshness and vigor, though exposed during a long lapse

of time to the fury of the wintry tempest, and to the ardour of the summer's sun. Its usual height is its native soil is from forty to forty-five feet, and one foot in diameter. The leaves are evergreen. The wood is extremely hard, tough, and very lasting.—It is used for ship-building, screws, cogs for mill wheels, and other purposes, for all which it is preferred to the white oak.

The cork-tree, or cork oak, is a native of the south of Europe; it was introduced into England about ninety or a hundred years ago. It is found growing naturally in the south of France, in Spain, Portugal, and in some parts of the states of Barbary. It rarely exceeds forty feet in height: and three feet in diameter. The wood is considered to be less durable than the common oak, although it is compact and heavy. Its growth in England is confined to warm sheltered situations. In exposed situations it cannot be reared. The largest we have seen in England is in the Royal Gardens, Kew, where its characteristic property, that of producing in perfection cork-bark, was, when we saw it a few years since, very evident and interesting. Abroad the cork is considered fit to be first taken from the tree when it reaches twenty-five years of growth, but this product is not of a quality to be used for better purposes. In ten years it is renewed, but it is not until the tree has attained to the age of forty-five or fifty years that the bark possesses all the requisite property for good corks. July and August are the seasons for taking it from the trees, which is carefully done, so as not to wound the alburnum; for should this happen (it may be unnecessary here to state), the cork bark is not again renewed on that part. The acorns should be sown as soon as received from abroad; in small single pots, and shifted into larger as the roots increase, until the plants are from one to two feet high, when they may be transplanted for good; they may, however, be kept until they are six feet or more in height, provided care be taken to prevent the tap-root from passing down below the pot to any great length. The ilex, or evergreen oak, may be reared with advantage in the same manner as that now described. It is more hardy than the preceding tree. Its merits for ornament and shelter are well known; it appears to have been introduced into England from the south of France in 1581.

The kermes oak, *Quercus coccifera*, is worthy of remark here, although of so humble a habit of growth as not to attain the size which constitutes a timber tree. The scarlet, or red purple dye of the name, which supplanted the substitute obtained from a species of the murex, shell-fish, and used for the anciently celebrated Phœnician purple dye, is afforded by this oak-shrub (for the plant seldom rises above five feet, and often does not exceed two,) in the form of small red galls, caused by the puncture and subsequent deposition of the eggs of an insect, called coccus tinctus. This dye, in its turn, however, has been supplanted by the cochineal *Coccus cacti*, an insect itself, found on one or more species of the cactus, or Indian fig, but more particularly the *Cactus coccinifer* or the *Opuntia coccinifera*. The kermes oak is a native of the south of Europe, and was introduced into England about 1683.

Of the other species of oak enumerated below, the dyers' oak, *Quercus tinctoria*, demands notice, on account of its bark furnishing the yellow dye, *quercitron*, a substance much used in dyeing wool, silk, and paper hangings. It is the cellular integument of the bark that supplies the colouring matter. Doctor Barnefort states, that one part of *quercitron* is equal to ten parts of wood. It is stated, that to dye wool it is sufficient to boil the quercitron with an equal weight of alum; in dipping the stuff the deepest shade is given at first, and afterwards the straw-colour.—This species of oak appears to have been introduced into England as early as 1739; but its useful property now alluded to seems not to have been proved, or in fact, tested in this climate. Its wood is considered inferior to that of the common oak.

Timber or Forest Species.			
OAK-TREE.	QUERCUS.	Native of	Ft.
Common	<i>robur</i> pe- <i>dunculata</i> <i>sessiliflora</i>	Britain	60
Sitting acorned	<i>pubescens</i>	England	40
Woolly-petioled, or	<i>corris</i>	S. Europe	50
Durmast	<i>bullata</i>	—	—
Turkey-mossy-cups	<i>sinuata</i>	—	—
Var. Rough-lvd. do.	<i>denticata</i>	—	—
„ Nar.-lvd. do.	<i>ilex</i>	—	—
„ Fulham	<i>serrata</i>	—	—
Evergreen	<i>oblonga</i>	—	—
Var. Notch-lvd. do.	<i>lucumbina</i>	Levant	—
„ Long-leaved	<i>robur</i>	N. Amer.	80
„ Lucumb's	<i>montana</i>	—	—
Champion-red			
Var. Mountain red			
Species for Ornament, or whose value for Timber of British growth has not yet been ascertained.			
OAK-TREE.	QUERCUS.	Native of	Ft.
White	<i>alba</i>	N. Amer.	70
Willow-leaved	<i>phellos</i>	—	50
Live	<i>virens</i>	40 to 45	—
Ash-coloured	<i>cinerea</i>	18 to 20	—
Laurel-leaved	<i>laurifolia</i>	—	40
Var. Blunt do.	<i>obtusata</i>	—	—
Title-cupped	<i>imbricaria</i>	—	40
Holly-leaved	<i>graminifolia</i>	—	—
Cork-tree	<i>saber</i>	S. Europe	—
Kermes	<i>coccifera</i>	2 to 15	—
Broad chestnut-leaved	<i>prinus</i>	—	80
Var. Long-leaved	<i>oblongata</i>	—	—
Common water	<i>aquatica</i>	N. Amer.	40
Var. Vari-leaved do.	<i>heterophylla</i>	—	20
„ Long-leaved do.	<i>elongata</i>	—	30
„ Entire-leaved do.	<i>indivisa</i>	—	—
„ Nar. leaved do.	<i>attenuata</i>	—	—
Black	<i>nigra</i>	—	30
Three-lobed	<i>trilobata</i>	—	—
Downy-leaved	<i>elongata</i>	—	—
Dyers	<i>tinctoria</i>	—	90
Scarlet	<i>coccinea</i>	—	80
Marsh	<i>poliostria</i>	—	90
Ilex-leaved	<i>ilexifolia</i>	—	—
Gt. prickley-cupped	<i>agilops</i>	S. Europe	—
„ or Velandia	<i>esculus</i>	—	—
Italian	<i>stellata</i>	N. Am.	40, 50
Starred	<i>lyrata</i>	—	80
Lyre-leaved	<i>borcilis</i>	—	50
Grey	<i>banisteri</i>	—	3, 4
Bear-oak	<i>faginea</i>	S. Europe	—
Beech-like	<i>halophilos</i>	France	—
Hisped-cupped	<i>Taazin</i>	S. Europe	—
Soft-jagged-leaved	<i>Austriaca</i>	Austria	—
Austrian	<i>ovaleformis</i>	N. Amer.	—
Amer. mossy-cup	<i>conglomerata</i>	—	—
Clustered	<i>fastigata</i>	Pyrenees	—
Cypress	<i>repanda</i>	N. Amer.	—
Repand	<i>pseudo-siber</i>	Spain	—
Cork-like	<i>macrocarpa</i>	N. Amer.	60
Over-cup-white	<i>catesbei</i>	—	10, 20
Barren scrub	<i>nana</i>	—	—
Dwarf	<i>agrifolia</i>	—	—
Spiny-leaved	<i>pruinoides</i>	—	—
Dwarf-chestnut	<i>canadensis</i>	—	70
Yellow-chestnut	<i>michauxii</i>	—	80
Swamp-white	<i>montana</i>	—	40, 60
Ruck-chestnut	<i>bicolor</i>	—	70
Two-coloured			
Turner's	<i>Turnerii</i>	—	—
Levant	<i>infectoria</i>	Levant	—
Subdeciduous	<i>stellata</i>	S. Europe	—
Glossy-leaved	<i>lezerminia</i>	—	—
Spreading	<i>expansa</i>	—	—
Calycine	<i>calycina</i>	—	—
Portugal	<i>lusitanica</i>	Portugal	—
Crenated	<i>crenata</i>	S. Europe	—
Running	<i>sericea</i>	N. Am.	20 in.
Sea	<i>maritima</i>	—	3, 8

(To be continued.)

PROTECTION OF FRUIT FROM THE CURCULIO.

S. P. Hildirth, of Marietta, Ohio, gives the following statement in the N. E. Farmer:

I made numerous experiments, the last season, for protecting the fruit of my plum trees from the depredations of the "curculio," that feeble but irresistible enemy to all horticulturists. One was to suspend small bunches of rags, dipped in Seneca oil and sulphur, under the branches of the tree. To these they paid no attention, but deposited their eggs in the fruit not an inch from the rags. Another tree was sprinkled frequently with soap suds mingled with sulphur, but with little better success. On a third tree which grew near a shed, a mixture of equal parts of fine flour of sulphur, and wood soot, was scattered from a sieve, over the leaves and fruit, when they were moist with dew or wet with a shower—this proved a complete protection. The fruit was not attacked by the little destroyer, but attained nearly its full size, and began to change its colour for ripening. I had calculated on the fine eating we should have shortly, when, lo, a new calamity appeared in the form of numerous cracks and fissures, first appearing in the upper surface of the fruit, and, in a few days, spreading to the stem, and exuding the gum of the tree in small drops; they rotted and fell to the earth, without affording me a single ripe one. The trees were the Orleans plum, and blue gage. The application had no influence in causing the cracks, as the same thing happened to some branches which were covered with millinet, and to which none of the powder was applied. It must arise from an exuberance of sap, produced by a soil too rich for the healthy growth of the plum. It does best in a poor, hard soil, while mine is rich and mellow. It is the same with the pear tree. The only healthy trees within my knowledge, are growing on a poor, clayey, or dry, gravelly soil.

(From the New York Farmer.)

TROPICAL PLANTS.

We recommend our extracts from the papers furnished by Dr. PENNING, U. States Consul, at Campeachy. Specimens of the leaves and hemp of the Agave may be seen at the office of the New-York Farmer.

"Two varieties of that species which I take the liberty to christen Agave Sisalana, have long been cultivated in the vicinity of Merida, on an extensive scale. Different quantities and qualities of fibres are obtained from several kinds of 'Sisalquils,' which grow spontaneously through the whole peninsula of Yucatan, but the planters give the preference to the sacqui and yaxqui of the natives, or the whitish and greenish 'Heenequen.' The young plants are placed about twelve Spanish feet apart, and during the first two years, some labour is employed to destroy the weeds between them. In the third year, the cutting of the lower rows of leaves is commenced, and every four months this operation is repeated. Each robust plant will thus give about seventy-five leaves annually, from which are extracted about seven pounds and a half of fibres, and will continue yielding these crops from five to ten years in succession. It is, however, generally cut down as soon as one of the shoots from its roots has grown sufficiently to supply its place. Its other offsprings are previously removed to form new plantations. The hardness of the shoots may be inferred from the fact, that they are exposed to the sun fifteen or twenty days 'to cicatrize their wounds' as a necessary preparation for replanting.—The simplicity of their cultivation may be conceived from the statement, that there is not a hoe, nor a spade, nor a plough, nor a harrow, employed in the agriculture of all Yucatan. The facility of extracting the fibres from their leaves is shown by the rudeness of the instruments which are used by natives for that purpose. A triangular stick of hard wood, with sharp edges, from eight to twelve inches long, and

from one to two inches thick, is with them an equivalent to the shaving knife of the curriers, by which they scrape away from each side of the leaf, on a board resting against the breast, the cuticle and pulpy substance that covers the fibres. Another mode of accomplishing the same object is, by pressing the sharp semilunar extremity of a long narrow, longitudinal strip of the leaf, which is then drawn through by the unemployed hand. The length, weight, strength, and other qualities of the fibres, as well as the labor of separating them, vary with the magnitude, age, and position of the leaves; but when extracted, a few hours exposure to the sun completes the preparation of the Sisal hemp for manufactures and for commerce.

"Sisal hemp may contain materials of very different qualities, and hence the opinions of its merits expressed by our merchants, our manufacturers, and our scientific men, must vary with the parcels that fall into their hands. The fibres of a single cultivated variety of the Agave Sisalana might be assorted like cotton for the foreign market, with denominations and prices corresponding to their relative value; but the collectors for exportations, unconscious of the true interest of themselves or their country, not merely mingle the whole products of both the Sacqui and the Yacqui, but add inferior qualities obtained from wild varieties of the same, and even of different species; and injure still further the reputation of this staple abroad, by including the worst proceeds of its imperfect dressings.

"Notwithstanding all these disadvantages, the cultivation of Sisal hemp is of the highest importance to the people of Yucatan, as it is the *only article of agriculture* which supplies them with raw materials, and domestic manufactures for foreign trade. It has long formed a principal portion of the exports from Sisal to Havana, in the shape of twine, cordage, bagging, &c. for the planters of Cuba. Its ropes and cables have been used in the shipping of various nations; and entire cargoes of the raw material have been transported to the ports and wrought in the factories of Europe and of the United States.

As the Agave Sisalana is so important an object of cultivation in the Peninsula of Yucatan, how much more important would it be to the Peninsula of Florida!

(From the London Horticultural Register.)

ON CHANGING THE COLOUR OF THE HYDRANGEA HORTENSIS.

I hope you will not consider me as trespassing on the pages of your magazine, or intrusive on the patience of your readers, if I make a few observations on what has come under my notice, relative to the treatment of the Hydrangea Hortensis, with a view to change the colour of the flowers. Some years ago, I turned my attention to the cultivation of this plant, and looking over the pages of the Encyclopædia of Gardening, I read the opinions of some eminent practical men, who stated that a compost of turf ashes, or ashes of Norway spruce, &c. &c. would effectually change the colour; this I made use of but without the desired effect; for I found that the plants neither grew so healthy, nor were the trusses of the flowers near so large as when free from it, and the colour was by no means a good blue. I next had recourse to a kind of peat-earth, which appeared to contain a small portion of oxide of iron; the plant in this grew very healthy, and bore large trusses of flowers—but these too were far from being a good blue. Nevertheless, I am satisfied that when the soil can be obtained with a good portion of the oxide of iron, the flowers will be blue; but as I found this to be a method on which a practical gardener could by no means depend, I was very anxious to discover something that would answer the desired end. All the means I made use of proved ineffectual, I was forced, though reluctantly, to give up the experiment; but coming into the neighbourhood in which I now reside, I was struck with the

vigorous and healthy state of the Hydrangeas kept by the cottagers here; the flowers are of an exquisitely fine blue, and in size the trusses are surpassed by none I ever saw, and a particular friend of mine, who had lived some years in the neighbourhood, assured me that every year blow the same beautiful colour. The compost they are potted in is common sandy loam, mixed with about one-third of fresh sheep's dung. A portion of the same dung is mixed with the water that is given to the plant, and I am informed that the young plants, which have been grown in all parts of the village that have received this treatment, the same effects have been produced. As I have not hitherto had an opportunity of proving the experiments myself, I beg leave to submit it to the notice of your readers, some of whom may perhaps have used similar means.

Yours, &c.

RUSTICUS.

RURAL ECONOMY.

ON TRAINING OXEN.

MR. SMITH:

Sir,—In the 1st No. of the 14th volume of the American Farmer, I see some remarks on the manner of "training cattle," and some inquiries respecting the best mode of doing it. I am pleased with your correspondent's ideas on this subject. I have recently learned a mode of breaking steers to the yoke, which seems to me so remarkably reasonable, so humane, and so well calculated to aid in effecting the object, that I take the liberty of offering it to you, that if you think it of sufficient interest you may communicate it. I would remark, that the training of steers to the yoke, is not the work of an hour or a day. Before they work well, work must be made something of a habit with them. I think, however, they are the most docile of working animals, and if our efforts to subject them are directed by reason, they are more certainly successful, than with the horse or the mule; and further, that they are more perfectly subjected to our control, and manifest more intelligence in understanding our commands, than even the horse. This control over them is not obtained by cruelty or abuse, by whipping and beating, but by kind and generous treatment. The mode of breaking alluded to, is as follows:—On a stump or substantial post, fasten a pole with a pin, in such manner the pole will turn round as on a pivot. The pole may be some twenty feet long, and ought to be from the ground the height of the yoke when on the steer—fix the end of the pole similar to the end of a yoke, and then yoke the steer in it. By reversing the position of the steers, one may be yoked at each end of the pole at the same time. They will soon get so as to travel round the post or stump together. If it is feared the steer may injure himself by twisting round the end of the pole, this may easily be prevented, by mortising in a small bar at the end of the pole. After they are yoked in the pole let them remain a day or two, troubling them no farther than to feed them.—After they have ceased to make efforts to extricate themselves from the pole, and will travel round quietly with it, yoke them together, and there will be no difficulty in using them behind a well-trained yoke of oxen. While yoked to the pole it is well to familiarize them, by rubbing and handling them, that they may learn to be approached without the fear of being injured.

In breaking cattle to the yoke, the first requisite is, to impress them with the conviction, that they are perfectly subjected to our control, and that all their efforts to extricate themselves from it are unavailing. What is to be avoided particularly, is, to prevent them from learning to "turn the yoke," from becoming sullen, and lying down, and from the habit of running away. Now it does appear to me, that the above mode, of first handling them, is eminently calculated to prevent them from acquiring either of the above vices. It is further recommended in this, that

they are habituated to confinement, without the possibility of injuring themselves, and all the necessity of whipping and beating them, in the first handling, is entirely superseded. One thing to be especially avoided with young cattle, is, not upon any consideration to overtask them. Should the above be the means of preventing a single scene of inhuman beating of young steers, for turning themselves in the yoke, or of beating them when they get sullen and lie down, or of twisting their tails to make them get up, it will be ample compensation for the trouble of one who subjects himself

A FRIEND AND ADMIRER OF GOOD OXEN.

I would request any one who makes a fair test of the above mode, to communicate the result. A very great aid in breaking young steers, is, in the first instance, simply to catch and tie them to a tree, and let them remain tied for a day or two. By either of the above modes, and judicious handling after being taken in hand, so far as my observation goes, steers that have been little handled and are comparatively wild, are broke sooner, and with greater facility than those which have been petted and are tame.

(From the Genesee Farmer.)

TRAINING CATTLE.

I was much pleased with an article in your last paper, taken from the N. E. Farmer, [published in the American Farmer, No. 1, p. 7, of the current volume] on training cattle. The frequent abuse of our laboring animals by those who receive the benefits of their labors, and who ought in return to treat them mercifully, has often given me great pain. Indeed, it is a matter to me perfectly surprising, how any intelligent being can so wantonly and unthinkingly abuse dumb animals, as many are in the daily habit of doing. I venture to say, from my own observation, and that has not been limited in this particular, that nine-tenths of the perverseness of laboring animals arises from the mismanagement, at some period or other, of those who train or use them. It appears to me the rules of management, in all these cases, are extremely simple. You have only to study the natural disposition and history of the animals to know how to manage them. By your own feelings, you can easily perceive that they can have but little heart or disposition to labor if scantly fed; of course, good feed is the first step in obtaining good labor. The next is to have your teams properly trained so as to know you, and also to be fond of you, and to love the sound of your voice, for animals are capable of much affection. I have known numerous instances of the kind, and in all cases with which I have been familiar, those who treated their cattle or horses with kindness, always obtained from them the most work, and that too in the easiest way.

I have employed, in the course of my business, a great many men with teams, both of oxen and horses, and I never yet knew a bawling, noisy, whipping teamster who did a great day's work; nor have I scarcely known such a one who kept a fat team. The best man who ever did me any labor was a good substantial farmer. His oxen were always fat, and spry as colts. He would never hit them to any thing which he knew they could not draw;—of course they were not discouraged; and he hardly ever spoke louder to his oxen than in a low tone of common conversation. He would frequently talk to them soothingly, and encourage them when he had a hard job on hand, which was often the case. After making a heavy pull he would sometimes pat them on the back; but I rarely ever knew him strike or worry his team. He carried a slender goad with a short lash to guide them with, and a mere swing of the whip was sufficient for his purposes. I have known several such persons in my life, and I do not hesitate to say, that any person who so manages his teams, will get more labour at less expense, and with more ease to himself, than by the ordinary bawling, whipping method so much

pretised in our country. All the difference with these people is, that the one understands and studies the nature and disposition of his animals, and the other does not. "An even temper and a steady hand" ought to be the teamster's motto, the world over.

ULMS.

(From the Genesee Farmer.)

FEED FOR WORKING OXEN.

East Barrington, April 30, 1832.

MR. EDITOR—I would make a few remarks to the gentleman who recommends feeding ears of corn, and for a change, feed potatoes to oxen, in order to make them as powerful as a steam engine running upon a rail road. But whether it would or would not be more economical to thresh the corn and get it ground, and wash the potatoes, and with a large pounder-mash or break them up in a plank box prepared for that purpose, in the barn or stable, and mix the meal with the potatoes, and feed them this in the heat of the day, at which time, for a change, let the teamsters cut straw to mix the meal with for night and morning. In this way I have three pair fed, together with good hay, and I find them to move like a shuttle, and make matters and things crack and snap like an ice creek.

Yours, respectfully, J. SPICER.

(From the New York Farmer.)

TO BOIL POTATOES.

Being almost half sick from the changeable weather, I, the other day, retreated to the kitchen corner—a comfortable place when the cook is good natured. She was a new comer, a native of Wales. The potatoes were peeled and put into the water after it had commenced boiling. After they were about sufficiently boiled, the water was poured off, and the sauce-pan containing them again put on the coals to drive off the moisture. Two or three times in the course of ten minutes, she took off the lid, and shook up the potatoes, bringing those at the bottom to the top. In this last operation consists the whole art of boiling a potatoe. The steam is allowed to escape from all the potatoes, and from all parts of the sauce-pan. If a towel is put over the potatoes, while they are steaming, it absorbs the moisture that condenses on the under side of the lid and drops again on the potatoes. When the lid is taken off to shake up the potatoes, the towel is also taken out. Potatoes managed in this manner, are superior beyond all comparison to those cooked in the common way.

MISCELLANEOUS.

(From the Genesee Farmer.)

FIELD MICE.

East Barrington, Yates Co. April 30, 1832.

In the fall of 1829, I neglected to clean out the grass and weeds in my apple nursery, that contained some thousand trees. In the spring of 1830, I found two or three hundred wholly spoiled by the mice; many eat entirely off at the bottom that were an inch and a half in diameter. I then declared that there should be no neglect in clearing out the nursery the next fall, but owing to a pressure of business, and cold weather commencing, I had not cleared out the nursery. I finally hit upon a plan to rout the mice. I took in a basket a bushel of shelled corn that I shovelled up where we sorted corn, and sowed it throughout the nursery in the grass. I then turned in twenty or thirty young hogs, and after a day or two I sowed another bushel; the shoats rooted the grass all over, and destroyed the mice and their habitations. Last fall I practised the same method, and find no appearances of mice. I have probably a thousand apple trees that are from one and a half to three inches in diameter, standing in grass fields. I pastured sixty or

seventy hogs in them that contained the apple trees, and many times the hogs run in other fields; and there is no appearance of mice in any of the fields where the hogs have run. I got so much in favor of the plan, that I turned them into the meadows, and let them in all my fields except where grain was sowed; and, although they have been so numerous, I can discover very little of their work on my farm, containing 500 acres of improved land, and quite a portion mucky land, such as is generally selected by the mice for their places of residence. I would observe that there has been great complaints, and much damage done in and about this section of country. Now it remains for others to say whether the hogs eat up the mice, as they do the rattle snake, or whether their trampling and continual rooting drive them off.

Yours, respectfully, JOHN SPICER.

USE OF HORSE-CHESTNUT.—If the value of this nut was more generally understood, it would not be suffered to rot and perish without being turned to any account, as at present. The Horse-Chestnut contains a saponaceous juice, very useful, not only in bleaching, but in washing linens and other stuffs. The nuts must be peeled and ground, and the meal of twenty of them, is sufficient for ten quarts of water; and either linens or woollens may be washed with the infusion, without any other soap, as it effectually takes out spots of all kinds. The clothes should, however, be afterwards rinsed in spring water. The same meal, steeped in hot water and mixed with an equal quantity of bran, makes a nutritious food for pigs and poultry.

HINTS ON FLORICULTURE.—Flowering plants having spindle-shaped roots, or such as require considerable growth before they flower, should be sown early in the spring or in the autumn.

PRICES OF WOOL.

The following statement exhibits the comparative average prices of wool (imported the last year) at the present rate of duty, and at twenty per cent. as proposed by the Secretary of the Treasury.

Imported from	Cost per pound at present rates.		Cost per pound at twenty per cent.	
	CTS.	CTS.	CTS.	CTS.
Netherlands,	62½	45		
England,	57	40½		
British American Colonies,	25½	19		
Hanse Towns,	60	43		
Havre,	22	15½		
Spanish Atlantic ports,	36	24½		
Portugal,	23	14½		
Trieste and Adriatic ports,	51	36		
Smyrna,	18½	10.90		
Brazil,	9	4.18		
Argentine Republic,	7½	2.81		
South America,	11	5.15		
Africa,	13	7.30		
Mexico,	9½	4.20		

By the foregoing bill, all wool unmanufactured, the value whereof, at the place of export, does not exceed ten cents per pound, will pay five per cent. ad valorem; when the value exceeds ten cents per pound, it will pay twenty per cent. ad valorem.

By the present tariff, wool of the same description, pays four cents per pound, and fifty per cent. on the cost on board.

HENRY BOWEN, Sec'y.

By the above statement, exhibited by the Secretary

of the Treasury, it will be seen that the prices of wool will be reduced as follows:

On wool from the Netherlands the price will be reduced 17½ cents per lb.

On wool from England the price will be reduced 16½ cents per lb.

On wool from British American Colonies 9½ cents per lb.

On wool from the Hanse Towns 17 cents per lb., &c.

And it will be further seen, by the same estimate, that of the fourteen descriptions enumerated by the Secretary of the Treasury, the average price in this country, according to his estimate, will be 19 1-3 cents per lb.—*Providence Daily Journal*.

(From the Providence Daily Journal.)

RHODE ISLAND MANUFACTORIES.

MR. MILLER:

I send you the annexed statement of the Manufacturing Establishments in this state, which will enable the friends of the American System, as well as the friends of Free Trade, to perceive the immense interest Rhode Island has in the decision of the question which at present so much agitates our country. Besides the above there is a very large amount of Rhode Island capital invested in other states. She has in fact nearly her all at stake.

Yours, &c. W.

Number and kind of Establishments.	Number of Spindles.	Number of Looms.	Amount invested in ground, buildings, and machinery.	Value of manufactures.	Persons employed.	Average wages.
119 Cotton,	328,877	5856	\$5,139,190.00	\$1,037,134.00	1744	\$801
22 Woolen,			335,000.00	281,135.00	150	124
5 Bleacheries,			925,000.00	89,000.00	200	40
3 Print Works,			915,000.00	75,875.00	120	36
10 Foundries, 30 Machine Shops,			802,666.00	389,972.00	1245	
40 Tanneries,			76,900.00	140,200.00	135	
27 Jewellers' Shops,			100,900.00	100,900.00	160	
2 Comb Manufactories,			86,000.00	37,500.00	192	
					192	
			\$6,922,656.00	\$2,691,316.00	3863	3678
						3753½
						1,068,046.00
						3,550½
						1,214,515.00
						106
						78,400.00
						60
						69,600.00
						40
						40,000.00
						453,000.00
						13,500.00
						67,500.00
						31,125.00

RHODE ISLAND MANUFACTORIES.

PRESERVATION OF IRON FROM RUST.—A mastic or covering for this purpose, proposed by the Societe d'Encouragement, at Paris, is as follows: eighty parts of pounded brick, passed through a silk sieve, are mixed with twenty parts of litharge, the whole is then rubbed up by the muller with linseed oil, so as to form a thick paint, which may be diluted with spirits of turpentine, well cleaning the iron before it is applied. From an experience of two years, upon locks exposed to the air, and covered daily with salt water, after being coated twice with this mastic, the good effects of the preparation have been thoroughly proved.

THE SYLVIA AMERICANA;

Or a Description of the FOREST TREES indigenous to the United States, Practically and Botanically considered. Illustrated by more than one hundred Engravings. By D. J. BROWN.

Just received and for sale at the American Farmer Office and Seed Store. Price 2.50.

IMPROVED CATTLE AND SHEEP.

A few Calves half blooded Durham Short Horn and half Devon—Price \$50; and half blooded Southdown, and three-quarter blooded Merino Sheep—Price \$10, for sale. Apply to I. I. Hitchcock, at the Office of the American Farmer.

DURHAM SHORT HORN BULL CALF.

A full blood improved Durham Short Horn Bull Calf, by Gloucester, out of a first rate thorough bred Cow, four months old, well formed, of good size and points, for sale by the Editor of the American Farmer. Price, if immediately taken, \$150. Apply to I. I. Hitchcock, office of the American Farmer.

DEVON CALVES.

For sale, if taken immediately, a full blood Devon Bull Calf, 4 weeks old. Price \$30.

Also, a three-quarter blood Devon Heifer, same age. Price \$20.

Both these are beautiful animals, and will not be sold at these prices unless taken immediately.

Address I. I. Hitchcock at this office. May 18. 11.



CORN CULTIVATORS, HARVEST TOOLS, &c.

The subscribers have prepared a good stock of CORN CULTIVATORS, both wrought and cast lines; GRAIN CRADLES, with best quality warranted Seythes attached; GRASS SCYTHES and SNEADS ready hung or separate; Steel Hay, Grain, Manure FORKS and improved Wheat Fans. They are also now manufacturing and preparing to furnish the PATENT THRASHING MACHINE at \$75. Horse Powers \$75, which, together with their usual stock of Ploughs and other Agricultural Implements, are offered for sale on accommodation terms.

Also a supply of SWEET POTATO ROOTS, for planting. SINCLAIR & MOORE, Grant street, near Pratt street wharf, June 1.

AMERICAN MANUFACTURED SILK.

The subscriber having now established his throwing mill on a good water privilege, and having several bales of raw silks in different stages of preparation by competent workmen, will be able to supply orders from any part of the United States, for thrown silk, whether singles, tram, or orgazine prepared for weavers' use. Silk Suspender Webbing, Furniture Bindings, Fringes, &c. are manufactured by the subscriber equal to the best imported. Orders are respectfully solicited.—Stocking Weavers supplied on reasonable terms.

J. H. COBB,

Dedham, Massachusetts.

VALUABLE COW AND CALF FOR SALE.

A COW, six years old, with a young BULL CALF, of the celebrated Teeswaters and Holderness Breeds, will be sold cheap if immediate application be made. The ancestors of these animals, (a full bred Holderness Bull, and two full bred Teeswater Heifers.) were brought to this country by Richard Parkinson, of Doncaster, (England) and their progeny have been kept unmixed to the present time. This cross is said to be the origin of the Short horn Durham Cattle. The breeder of the Cow and Calf, (in whose possession the breed has been since their arrival from England,) prefers this race, as milkers, to any other. The Calf is a fine formed animal two months old. Apply to I. I. Hitchcock at the Office of the American Farmer.

June 1.

WOOL.

LYMAN REED, COMMISSION MERCHANT, No. 195 Baltimore Street, Baltimore, grateful for the patronage of his friends and the public, again tenders his services, assuring them that any consignments of WOOL, forwarded to him for sale, will receive particular attention. He wishes individuals to bear in mind the fact, that his time and attention are devoted entirely and exclusively to the SALE OF WOOL on commission only. Therefore on every consignment of Wool forwarded to him the utmost exertions will be made to promote the interest of his consignors. His time being devoted entirely to the article, and having had many years' experience in the business, he flatters himself that he can render more satisfactory sales, than persons unacquainted with the value and various grades and qualities of the article. He is weekly furnished by regular correspondents in Boston and New York, with a price current, and correct information of the value in those markets; and whenever better prices can be obtained there, he has arrangements made with experienced and responsible houses in those cities, to receive and dispose of any consignments which he may have orders to forward to those places.

All letters addressed to him (post paid,) asking information respecting prices, &c. will receive immediate attention.

L. R. has leave to refer to

Tiffany, Shaw & Co. } Baltimore.
Cobb, Wyman & Co. }
David H. Thompson, Frederick, Md.
G. W. Rutter & Co. Uniontown, Pa.
Zane & Pentony, Wheeling, Va.
Isaac Hoff, Winchester, Va.
Allison Owen, Cincinnati, Ohio.
Russell and Matthews, Zanesville, do.
J. Armstrong & Son, Naysville, Ky.
Liesly Combs, Esq. Lexington, do.
Muir & Wiley, } Louisville, do.
Lawrence & Anderson, }

AGRICULTURAL IMPLEMENTS AND FRESH GARDEN SEEDS.

The subscriber offers at his store and manufactory, No. 36 Pratt street, between Hanover and Charles streets, a great variety of AGRICULTURAL IMPLEMENTS, consisting of his Patent Cylindrical STRAW CUTTERS; Gideon Davis' Patent PLOUGHS, with cast and wrought shares, and Castings for the same to supply those worn out; Substratum and Shovel Ploughs; Harrows; Robbins' Patent Corn Planter; Corn Cultivators, Corn Shellers; Wheat Fans; Wire Saws, Hay and Manure Forks, by the single or dozen; Grass and Grain Seythes; Grain Cradles; Hay Rakes, Mattocks; Picks and Grubbing Hoes; Weeding and Hilling Hoes. A variety of Garden and Horticultural TOOLS, &c. &c. Those articles manufactured by himself special pains have been taken to procure the best materials and to have the work executed in the best manner.

Also, a great variety of GARDEN SEEDS, both European and American, and all of last year's growth, embracing a great variety of Beans, Cabbages, Radishes, late Peas, Bene Seed, &c. &c. And the following FIELD SEEDS, viz: Tall Meadow Oat Grass; Lucerne, of Prime Quality; Mangle Wurtzel, Ruta Baga; Large Yellow Pumpkin, by the quart or bushel; and White Italian Mulberry SEED, of prime quality.

J. S. EASTMAN.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—The prices of flour and grain continue on the advance, evidently in consequence of the deficiency in the supplies. Howard Street Flour was sold yesterday from wagons at \$5.75. Small sales have been made of both Howard street and City mills at \$6, and of Susquehanna, in good order, at \$5.75. Sales of wheat, rye and corn have been made at our quotations, but it is expected that corn will recede on the arrival of a good supply, which will take place on the first favorable change of wind.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 8.00 a 9.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 913 hhd. Md. 147 hhd. Ohio; 12 hds. Ken. and 4 hds. Penn.—Total 1076 hds.

Flour.—best white wheat family \$6.75 a 7.25; super Howard-street, 6.00 a—city mills, 6.00 a—Susq. 5.75 a—; CORN MEAL bbl. 3.50; GRAIN, best red wheat, 1.10 a 1.30; white do.—; Susq. —, a—Corn, white, 52 a 54, yellow 52 a 54; Rye, 55 a—OATS, 35 a 36.—BEANS, 75 a 80.—PEAS, 65 a 70.—CLOVER-SEED — a—TIMOTHY, — a—ORCHARD GRASS — a—Tall Meadow Oat Grass — a—Herd's, 75 a 87½—Lucerne — a 97½ lb.—BARLEY.—FLAXSEED 1.50 a 1.62—COFFEE, Va. 8 a 10½—Lou. 9 a 13—Alab. 8 a. 11½—Tenn. 8 a. 10.—N. Car. 8 a. 10—Upland 8 a 11½—WHISKEY, hhd. 1st. 25 a—; in hbls. 30 a—WOOL, Washed, Prime or Saxony Fleece 50 a 60; American Full Blood, 45 a 50; three quarters do. 40 a 45; half do. 35 a 40; quarter do. 30 a 35; common 25 a 30. Unwashed, Prime or Saxony Fleece, 30 a 35; American Full Blood, 27 a 30; three quarters do. 25 a 27; half do. 22 a 25; quarter do. 20 a 22; common, 17 a 20 Henr. Russia, ton, \$225 a 230; Country, dwt. rotted, 54 a 56 lb. water-rotted, 7 a 9c.—Feathers, 37½ a—Plaster Paris, per ton, 4.00 a 4.12½, ground, 1.50 a—bbl. Iron, pig, for foundries per ton 33.00 a—; high pig for forges, per ton 28.00 a 30.00; bar Susq. per ton, 12.50 a 30.00.—Prime Beef on the hoof, 5.75 a 6.50.—Oak wood, 3.25 a 3.50.—Hickory, 4.50 a—

CONTENTS OF THIS NUMBER.

Editorial; Sylvia Americana; Peonies—Valuable Trees from England—To make Hogs Work—Durability of Vegetable Life—Foreign Markets—The Dairy; Process of Cheese Making—Leached Ashes for Manure—Lime Water—Planting; Enumeration of the Different Species of Forest Trees—To Protect Fruit from the Curculio—Manner of Growing and Preparing the Sisal Hemp, Furnished by Dr. Perrine—How to Change the Color of the Hydrangea Hortensis—On Training Oxen—Advantages of Mild Treatment in Training and Working Cattle—Potatoes Recommended as Food for Working Oxen—Welch Manner of Boiling Potatoes—To Destroy Field Mice—Use of Horse-Chestnut—Hints on Floriculture—Prices of Wool in the United States—Rhode Island Manufactures—Preservation of Iron from Rust—Advertisements—Prices Current of Country Produce in the Baltimore Market.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, basement of Barnum's City Hotel,) by I. IRVINE HITCHCOCK, on the following

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscribers are in all cases charged by the year, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of this subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of the money sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and addressed to the publisher.

AG—All Postmasters are requested to acknowledge for the Farmer they are authorized to retain \$1 for each new subscriber, and 10 per cent. on all other collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

NEW FARMER.

BALTIMORE, FRIDAY, JUNE 15, 1832.

NEW CHINESE MULBERRY.

MR. SMITH: Charles County, Md. June 5th, 1832.

In your number of the "American Farmer," of the 25th of May, you recommend to the growers of silk in our country, the culture of the above tree in preference to the "white mulberry." The writer of these few remarks would be glad to know, if the "new Chinese mulberry" has been proven by its use in the making of silk, to be equal to the white mulberry (*Morus alba*) of China, and if so where it has been used. It is a well known fact, that the silk worm will feed upon the *Morus rubra*, (red mulberry,) a native of our own country, which in some of the states spontaneously springs up, when a native forest is cut down, particularly if the land be enclosed, but the experience of Mr. Deslongchamps as recorded in his essay upon that subject, in page 11th, shews that the leaves of this species do not suit the constitution of silk worms. If that be the case with the leaves of the "red mulberry," ought we not to have some evidence of the equal fitness of the "new Chinese mulberry" recommended by you, with the "white mulberry" so generally cultivated in foreign countries for the food of the silk worm, before we discard it for the new kind? The history of this new kind, as well as that part of China of which it is a native, and the reasons for believing it better than the white kind or equal to it, as *proven by its use*, would be gratifying to those who are about planting trees for the production of silk, amongst which number is the writer.

Should your recommendation of the *Morus multicaulis* be sustained as to results from its use, (not as to the texture alone of the silk, but as to its suiting the constitution of worms) the writer, as well as many others, would be glad to obtain some of the trees you expect to have in November next for sale. Amongst the preferences given to the "new Chinese mulberry" by you, is the "large" size of its leaves. The general opinions of writers upon the subject, and particularly of Dandolo and Deslongchamps, are, that the large broad leaves are not as nutritious as the small ones, and it has generally been said and written, that "the best mulberry leaf of any species, is that which is called the double leaf; it is small, not very succulent, &c." The beautiful and delicate silks of China which first attracted the attention of other parts of the world to the fabric, were made from the mulberry tree bearing the smallest leaves. These practical opinions and facts are rather opposed to the preference given by you to the "large leaves" of the "new Chinese mulberry," and without they have been proven by their application to the use spoken of, to be equal, in every respect, to the "white mulberry" tree, I do not think we ought to prefer its culture. If on the contrary, the quality of the new kind be equal to the other in every respect, it certainly ought to be preferred, for the reason given by you.

You say that 20 trees will produce "20,000 in three years," if your instructions be followed in planting them, and that the trees offered by you will be put up in "packages of twenty." Mr. Rush, in his communication to Congress, says, in Doc. No. 158, that one "tree will feed 3,000 worms, and will produce one and a half pounds of silk," and that "an acre of ground will produce 60 lbs. of silk in a season." This calculation places 20 trees in the plantation at 33 feet apart, and 41 trees to the acre. Taking Mr. Rush's statements correct, the 20 trees offered for sale in each package, will make a plantation of 500 acres. There are but few men in our country, who could, if so disposed, establish so large a plantation, and of course we would want 20 trees to begin with. Would it not be more accommodating to the public, to

dispose of the trees in packages of five in number?— This information might induce many to send in their names as requested, who otherwise may not do it.

POMONKEY.

REMARKS ON THE ABOVE BY THE EDITOR.

We take pleasure in replying to the queries and remarks of our respectable correspondent, so far as we are able. The new Chinese mulberry, (*Morus multicaulis*) has been proven by its use in making silk, to be not only equal but far superior to the white mulberry of China. It has been used both in France and America, and is the only kind used in the north of China, and the Philippine Islands. Dr. Pascalis informs us, (see American Farmer, vol. 12, page 124,) that it has been propagated in great quantity in France for the purpose of furnishing the establishments of that nation, and this fact has been often repeated in the public prints. He asserts, and our experience corroborates the assertion, that the leaves of the *Morus multicaulis* afford to the silk worm double the quantity of food furnished by the white mulberry. That is of equal weight of leaves, the *multicaulis* affords double the quantity of nourishment. And this is readily explained by the fact that the large proportion of insoluble matter, probably woody fibre, of the white mulberry leaf, is nearly absent in the leaf of the *multicaulis*. The leaf is singularly soft and silky. It is true that the result of Mr. Deslongchamps's experiments was unfavorable to the use of the common mulberry for silkworms, and we may add that our own experience has brought us to the same conclusion; but we ought not to infer from this, that all other mulberries, and especially one long preferred and used in China, must also be inferior to the white. Certainly every body ought to have some evidence, and good evidence too, of the equal fitness of the new Chinese mulberry for the purpose, before they adopt it to the exclusion of the white; and we did suppose that this evidence was before the public—at least we have done all we could to furnish it, as will be seen on examining our columns, and those of several other publications, especially the *Annals of Horticulture* of Paris.

The history of the new Chinese mulberry will be found in the American Farmer, vol. 12, page 124.—This mulberry was brought from the Philippine Islands by a French corvette, in July, 1821. The corvette had been sent out by the French government, under the care of Samuel Perottet, for the express purpose of collecting rare plants, seeds, &c. along the coast of Asia as far as the Philippine Islands, and returned laden with them, the *Morus multicaulis* being one of the articles obtained. It was found at the Philippine Islands; where it had been carried by the Chinese colonists, one of whom remarked that to this plant his country "owed its immense product of silk, and the greatness of the celestial empire, from whence we carried it as the best article of our national wealth." Mr. Perottet ascertained that it was originally from the north of China, that it had been transplanted from Canton to Manila; he deposited it in the Island of Bourbon, at Cayenne, and at Senegambia. On its arrival in France it was immediately taken to the Royal Gardens at Paris and Montpellier for propagation and experiment, the result of which has been its universal adoption so far as it could be obtained.

All the trials of this mulberry of which we have seen any account, have resulted favorably. It not only makes silk of the best fibre, but is most congenial to the constitution of the worms.

The preference given by Dandolo and others to the double leaf white mulberry, was not founded upon the size of the leaf, but upon its quality, and the size was only referred to as descriptive of the kind preferred, not as indicative of quality. The large leaves of the white mulberry are not as good as the small ones, because they are too succulent; but may not a vegetable have large leaves without a superabundance of sap,

especially if such leaves be the natural ones? The leaves of the Chinese mulberry, though very large, are thin and silky, and by no means too succulent.

It is true that the beautiful and delicate silks of China have generally been supposed to have been obtained from the white mulberry; but we have good evidence now for the belief that they are produced from the *Morus multicaulis*. The testimony of Mr. Perottet at least goes thus far.

When we said that 20 trees would produce 20,000 in three years, we did not of course mean to say that these 20,000 trees would be as large as full grown white mulberry trees, requiring a space of 33 feet square each, and each tree feeding 6,000 silk worms. We intended to be understood as saying that by proper management 20 young trees might be multiplied to 20,000 young trees in three years. By layering in a proper manner, each young tree may be made to produce at least ten young ones every season; so that 20 trees laid down in the spring of 1833, will produce 200 in the fall of the same year as large as the originals were in the spring; these laid down in the spring of 1834, will produce 2,000 in the fall of 1834, and these latter laid in like manner in the spring of 1835, will produce 20,000 in the fall of 1835; and in the spring of 1836 the leaves of the young trees may be used for silkworms, and there will be an abundance for an establishment however large. They may be planted in the fall of 1835 at 4 or 5 feet apart, but even at 6 feet there will be 1200 to the acre, so that 161 acres will contain the 20,000. Although this mulberry will attain to 15 or 20 feet in height, with a proportionate breadth, it is recommended that they be kept low by heading down, for convenience of gathering the leaves. We know that the leaves are just as good for silk worms when the tree is but a year old as when older. The tree indeed seems to attain maturity much sooner than any other tree we know of, as we have several trees only a year old with perfect fruit on them. Our trees have generally attained a height of 6 to 8 feet, and an inch diameter at the base, in one season.

As to the number of trees in a package, we directed twenty trees to be put up in each package, because that number would enable any person to secure a supply of leaves in three years. But we have no objection to supplying any smaller number—indeed it was not our intention to exclude the supply of any number, even of a single tree. From careful experiments we have ascertained the proportion by which the *Morus multicaulis* may be increased, and thence calculated the number that would supply a silk establishment in a given time; the result of these experiments and calculation is the recommendation to begin with twenty trees that a supply may be obtained in three years. The time at which a full supply of leaves will be obtained will be lengthened or shortened, according to the number of trees begun with under or over twenty.

To conclude, so confident are we of the superiority of the *Morus multicaulis* over the white mulberry, and of the certainty with which a full supply of leaves will be obtained by the means proposed, in three years, that, were an insurance practicable, we should not hesitate to become responsible for all losses that might be sustained (casualties and carelessness excepted) by those who try the experiment.

We shall take pleasure in giving any further explanation that may be desired, and beg our friends to be assured, that nothing but the most thorough conviction of the importance of the *Morus multicaulis*, and of its great superiority over every other kind of mulberry, could induce us to urge its preference. As we have repeatedly said, it is peculiarly fortunate for this country that this species of the mulberry has been introduced just at the commencement of the silk culture. We also repeat, that a full supply of leaves for the largest establishment can be obtained from it in half the time required to obtain them from the white mulberry.

AGRICULTURE.

(From the Genesee Farmer.)

SHEEP.

Richmond Hill, Ontario Co., May 15, 1832.

Dear Sir—I enclose you for publication in the Genesee Farmer, a letter on the subject of sheep, from the respectable and experienced wool-grower, whose name I introduced into your columns in the first number of your present volume.

In your 19th number, your correspondent, Ulmus, seems to doubt, if Western New York be "a good sheep country." That there are sections of it too level, low and damp, and others too little cleared and improved, to be well adapted to the health of large flocks, may not be denied. But that our country generally is at all inferior, as a sheep country, to the eastern section of the state, or to our neighboring states, I do not think experience at all warrants us in concluding. Much of the southern part of Western New York is a hilly region, and must, as it continues to become well cultivated, prove as good a sheep country as any other. * * * * *

Ulmus asks if "a stock of our old or common sheep are not as profitable as the Merino?" To the small farmer, who works up his wool in household manufactures, they may be; but not to the larger farmer who grows wool in considerable quantities for sale.—He can as easily maintain a hundred merinos, as to expend land and labor, as a hundred common sheep. The only difference in the investment, then, is a few dollars a head, in the first purchase of stock to begin with. For this, he is much more than compensated by the constant difference in the income of his flock, both as to fleece and the sheep he may raise for sale. Ulmus will find from Mr. Jarvis' letter, that the Merinos, before their intermixture with the Saxons, were hardy, prolific, and yielded heavy fleeces. Respectfully, yours,

Z. BARTON STOUT.

Weathersfield, Vt. Feb. 26, 1832.

Z. BARTON STOUT, Esq.

Dear Sir—Poor health, together with considerable business, has prevented an earlier attention to your favor of the 7th inst. To quitting a profitable business in Europe to pursue my present calling, I had a greater view to the public good than to my private emolument; and of course, I have cheerfully communicated the knowledge which observation and experience have afforded me in relation to sheep. About a month since, I saw an article in Niles' Register, written by Gen. Tallmadge, which I apprehended was calculated to give wrong impressions to the wool-growers, and I answered it anonymously. This article will afford a partial answer to some of your questions.

Perhaps your first question of the cause, why the admixture of Saxony Sheep has deteriorated our flocks, is not quite precise enough. So far as my observation extends, the crossing has improved the quality or fineness of the wool, but the quantity has been diminished at least one-third, and the constitutions of our flocks have been injured, so that they do not bear exposure, cold, and hard fare near so well as the Merinos did. All the Merinos sent to the United States in 1809 and 1810, were of the trashy and untraveling breed, which are esteemed the best in Spain.—They are pastured in the plains of Spanish Estramadura in the winter, and are drove to the hilly and mountainous districts of the two Castiles of Leon, and even some as far north as the southern parts of the Austrias, (say from 100 to 250 miles.) for summer pasturing. These driits are made in April and October. They are from ten to twenty days in making those journeys, respectively; and as they fare hard, the feeble sheep generally sink under it, and are left behind on the road, and devoured by wolves. It follows that the remaining part of the flock will be composed

mostly of sheep of good constitutions; and as this sifting process is performed twice a year, it must continue their flocks healthy and vigorous. In Saxony, on the reverse, greater attention is given to the housing of their sheep, than is given to it in any part of this country, and their cold season lasts over five months. Fine wool has been the principal object of their attention; and to this object they appear to have sacrificed the form of the animal, his constitution, and the weight of fleece. Whether this has been done by sixty years' breeding, or whether they laid the foundation of it in their first selections, cannot probably be determined; but the fact is indisputable.—There are two other races of Merino Sheep in Spain, called the Segovian and Sorian, which I have understood were not so hardy as the Leonese; and it is probable the Saxons drew their original stock from those flocks, as being nearer to France, through which kingdom they were drove. It must be obvious to every one at all acquainted with the subject, that, under your method of management, which I have learnt was to feed at stacks without shelter, it will require the hardest breed of sheep to secure success; and it must follow that the Merino, as much harder than the Saxony, is the breed to which the attention of your breeders ought to be principally given.

Your second question, as to the best method of improving the fleece, involves several questions. If fineness of wool is the sole object, without reference to form, to hardiness or weight of fleece, the Saxon custom of housing and selecting the stock with a single view to fineness is doubtless the best. But until there is a greater difference than there now is in this country, between the price of middling and superfine wools, I am satisfied that the additional price of the latter will not compensate the breeder for the increased attention which the Saxony sheep will require, the lesser number of lambs raised, and the diminished weight of the fleece, as compared with the Merino.

Your third question, whether it is possible to improve the quality of the wool without impairing the size and health of the animal, has already been partly answered; but I know from my own experience, that the Spanish Merino has been improved in fineness of fleece without detriment to the size or constitution.—I have always selected my Bucks with reference to form, health, weight of fleece, and fineness. For several years after I first began, I sent to auction and otherwise sold my inferior shaped and less fine ewes, and in five or six years, my fleeces, one with another, averaged 3lbs. 14oz. to four pounds per head, well washed on the sheep's back, without including tag locks. About eight years since, my wife was clearing out an old trunk, in which she found about twenty samples of wool, which had been sent me from Spain in 1810, and which had been carefully secured in paper and labelled. I went into my yard and clipped off about a dozen samples, and compared the two, and became satisfied that my flock had improved upon the original stock. I likewise handed the samples to several judges, who called on me in the course of the month, and they uniformly pronounced mine to be the best wool. It was also tested by a glass of 100 magnifying power, with the same result. Mr. James Shepherd, a skilful manufacturer, has likewise several times told me, that he had purchased a number of lots of the best Spanish wool, but it would not make cloth that would handle as soft and silky as did that made from my wool.

Your fourth question is, whether the New England flocks have been less productive since the introduction of the Saxony? The feebleness of the lambs, and the increased number of deaths since the Saxony crosses, is an universal complaint.

Your last question is as to the management, &c. &c. To insure success to the grazing farmer, it is clear that his stock must be suited to his treatment, or his treatment must be suited to his stock. Well knowing the attachment which all classes of society have to their peculiar customs and usages, and being

persuaded that our farmers would not deviate from their ordinary management to make a new, and, as they believed, doubtful experiment, I came to the conclusion, that if the Merino would not thrive under the ordinary management of our good farmers, this invaluable animal could not be propagated to any considerable extent in our country. I, therefore, adopted, as the ground work of my experiment, the method of treatment which I found practised by our best farmers in regard to the common sheep, to determine whether the Merino was not suited to such management; and in three or four years I became satisfied that it was. This convinced me that this animal would, in process of time, be disseminated throughout our country, if a wise protection was afforded to our agricultural and manufacturing industry.

You know that in New England, all our hay and grain is housed in barns, and that among good farmers, an unexpensive shed is attached to the barn to protect the stock from the pelting storms of winter. I adopted the plan, and connected a yard to each barn and shed, but excluded horned cattle and horses from any sheep-yards, keeping the cattle and horses, and the sheep by themselves. This I deemed necessary to prevent the sheep being hooked and killed, and that all the best hay might not be got from them. I set racks in the yards, in which hay is put morning and afternoon for the fodder of the sheep; and when I have Indian corn in plenty, I allow them a noon feed of a gill a day per head, there being narrow troughs attached to my racks for the purpose. The troughs serve too the additional purpose of catching the leaves and heads of the hay, and the hay seed, which are likewise eaten by the sheep. It is a much more expeditious and economical method of feeding, than to strew the hay on the snow or ground, as no hay is blown away in windy days, and none trampled under feet and wasted in thaws. If the hay is not salted when put into the barns, salt ought to be kept by the sheep in a small trough made on a sill, under the shed. Water is a very desirable thing in every yard where it can be obtained.

I did, in this manner, for several successive years, keep three hundred sheep together in one yard, and never was there a more healthy flock. In fact, my Merino sheep always enjoyed high health, until the introduction of the Saxony; since which, I have been much plagued with the foot-rot, and I have been obliged to increase my yards, and to divide my sheep into flocks of one hundred to one hundred and twenty, to facilitate their examination and cure. From the time they are taken up in the first of the winter, they are never allowed to go out of the yard until turned out to pasture in the spring. The door of the shed is left open night and day, to go out and in when they please, except when the hay or grain is putting into their racks, when they are shut in. Whenever the sheds are fouled with their dung, they are strawed over. By this arrangement, one man tends in winter eight hundred or one thousand sheep, ten horses, and twenty head of horned cattle, and does it well, and with ease after he early part of February.

As to pastures, many of mine have been used for sheep twenty-one years in succession, without ploughing or any thing else being done with them, and occasionally mowing down the weeds. Sheep drop their manure very evenly over a pasture, and if not suffered to feed them too close, I think are rather a benefit to them than an injury. The best plan, doubtless, is, after a pasture is fed liberally close, to turn them into another, and after about three weeks, to put them back again, and thus to keep occasionally changing. Salt is essential to the health of sheep.—My method is to salt once a week in the pastures, in long narrow troughs, which prevents their soiling and wasting the salt, and all get most evenly salted.—Hilly pastures are the best, but a ground that is sound answers well; I mean by sound, land that is not wet, nor swaley, nor swampy, or such lands are unfit for sheep pastures. Pure running water is de-

sirable in pastures; for, in proportion to their bulk, I am satisfied that sheep will drink as much water as horned cattle. But they can get along without it, by feeding when the dew is on in the morning and evening. It is believed, however, by the most observing agriculturists, that sheep pastured without water are more liable to diseases. As I understand that you are in the habit of stacking your hay in your state, I must beg leave to suggest, whether it would not be well to erect unexpensive sheds in your mowing fields, to afford a shelter for the sheep. The hay could be as well stacked near them as in any other part of your field. Your fields might not be so evenly manured in this way, but your sheep would be healthier and the wool would be better, as it is a generally received opinion, that exposure to great moisture, sleet and snow, deteriorates the quality of the wool; and I think it must diminish the quantity, because much moisture in cold weather greatly chills the animal, and must prevent the regular action of the system, and check the growth of the wool.

The Merino has proved to be of important advantage to Saxony. During the wars between the great Frederic and the Empress Maria Theresa, the electoral states, being a middle ground between the dominions of the contending powers, were alternately taken possession of by each; and if they differed upon all other points, they appeared to agree upon ravaging the electoral dominions with impartial fury. At the expiration of the war, the Electorate was in waste, the inhabitants ruined, and industry paralyzed.—Shortly after its termination, the Elector obtained from Spain two hundred Merino ewes and one hundred Bucks, and several scientific men were especially charged with their superintendence, management and dissemination. From this beginning, and some further supplies, the cultivation and extension of this useful breed has been steadily and systematically pursued. A few years after their introduction, woollen manufactures were established; and they have been so much extended that the Saxons now manufacture enough for their own consumption, and a surplus for exportation to the other German states, beside exporting annually, to foreign countries, wool to a very large amount. None of the German states are now in so flourishing a condition as Saxony, notwithstanding the injury she received in the course of the French revolutionary war; and her superior prosperity is mainly attributable to the introduction and extension of the invaluable Merino, and the consequent establishment of woollen manufactures. If you think any of the preceding remarks are worth general notice, you are at liberty to publish them; but I am afraid that their dress is not of a fashion to suit the public taste.

Respectfully, I remain, dear sir,

Your most obedient servant,

WM. JARVIS.

The following is the article alluded to in the first paragraph of Mr. Jarvis' letter, as having been written in answer to a communication from Gen. Tallmadge in Niles' Register:

When the wool growing branch of American industry has become of such great importance to several sections of the Union, and when every experiment, which has been judiciously made, demonstrates that it would prove equally so to the central and westerly parts of the Middle States, and to Ohio, Indiana and Illinois, owing to the small expense of transporting wool compared with the value of the article; which remarks I think will equally apply to the westerly parts of Virginia, and the northeast and easterly parts of Kentucky and Tennessee, duty compels me to reply to a letter of Mr. Tallmadge, which appeared in the Register of the 14th January, least his observations may prove detrimental to the extension of the breed of that useful animal. I have been an attentive breeder of Merino sheep twenty-two years, and six years of Saxony, and my own experience, as well as that of my neighbors, has proved, that the Spanish

Merino has a more vigorous constitution, is a hardier animal, and much less liable to diseases than is the Saxony. As the first fine woolled sheep were introduced into Saxony from Spain in 1765, this assertion may appear somewhat extraordinary; but Mr. Tallmadge admits the fact, although, so far as my observation extends, the cause he assigns for it is not supported by experience. In 1826 a greater number of Saxony sheep were imported than I believe were imported before or have been since all put together.—Two cargoes were sold in Brighton in May of that year, containing nearly 500, which I closely examined, and think there were not twenty among them of any one flock, which was readily determined by the ear marks. I purchased fifty-four, four of which only were from the same flock. I put eight bucks out of those to three hundred Merino ewes, and the progeny was more feeble than I had ever witnessed from Merino bucks. I did not raise more than three lambs from five ewes for two successive years; and in putting full blood Saxony bucks to the ewes thus crossed, I have not raised more than two lambs to five ewes. I have been still more unsuccessful in raising lambs from the full blood Saxony ewes and bucks, although they have been rather better kept than my other sheep. From my full blood Merino stock my increase was commonly nine lambs to ten ewes, and never less than four lambs to five ewes, and those Merino bucks had always been selected for fineness and weight of fleece and shape, from my own stock.

A more distant cross could not have been made than between the Saxony and Merino, and yet the same ewes which commonly raised nine lambs from ten ewes, and I believe never less than four lambs from five ewes, when put to Merino bucks of the same stock, only raised three lambs from five ewes when crossed with the imported Saxony. Hence it is evident that the lesser increase on the part of the Saxon breed must be attributable to some other cause than breeding in and in. The form of the sheep alone will satisfy an experienced agriculturist of the true cause. They are long-legged, thin quartered, flat sided, narrow loined, not sufficiently deep chested, and long necked. All domestic animals of this shape have feeble constitutions. But it may be asked, how does it happen that these sheep, which are descended from the Spanish, are so inferior in form to them? The most probable solution of the question is, that the persons who were sent by the Elector of Saxony into Spain to select, were not aware of a fact known to every attentive breeder, that individuals of the same flock, that have the most feeble constitutions, generally have the finest and lightest fleeces, and as fineness was their principal object, they selected the finest woolled sheep, without any reference to form of carcass or weight of fleece. In this they have succeeded, for the Saxony wool is certainly finer than the Spanish; but the latter will, sheep for sheep, at least yield one third more in weight of wool; and it possesses the felting or fulling property in as high a degree.

A WOOL GROWER.

(From the New England Farmer.)

CULTURE OF POTATOES.

A writer for Paxton and Harrison's Horticultural Register, with the signature "G. J. T." and author of the Domestic Gardener's Manual, observes, that "our enlightened President, Mr. Knight, has placed me in possession of directions for planting that noble root [the potato] in his own hand writing." They are as follows:—

I obtained from the ash-leaved kidneys, last season, (as bad one, 1830,) a produce equal to six hundred and seventy bushels, of eighty pounds each to the statute acre; and I entertain no doubt of having as much this year. To obtain these vast crops of the ash-leaved kidneys I always plant *whole potatoes*, selecting the largest I can raise; and for a very early crop, those ripened early in the preceding summer,

and kept dry. I usually plant them on their ends, to stand with the crown end upwards, and place them at four inches distance, from centre to centre in the rows; the rows two feet apart and always pointing north and south.

I plant my large potatoes much in the same way, but with wider intervals, according to the height which the stems attain; thus, one which grows a yard high, at six inches distance from centre to centre, and three feet six inches or four feet between the rows, never cutting any potato, nor planting one of less weight than a quarter but generally half a pound. By using such large sets, I get very strong and large plants with widely extended roots, very early in the summer.

The blossoms take away a good deal of sap which may be better employed in forming potatoes; and whenever a potato affords seed freely, I think it almost an insuperable objection to it. As a general rule, I think that potatoes ought to be planted in rows, distant from each other in proportion to the height of the stems. The height of stems being full three feet, the rows ought to be four feet apart; and the sets, of the very largest varieties, planted whole, never to be more distant from centre to centre than six inches.—By such mode of planting, the greatest possible quantities of leaf (the organ, by which alone blood is made,) are exposed to the light.

The philosophy of these able and simple directions may be shortly explained: It consists in the exposure of the utmost possible surface of the respiratory organs, (the leaves,) to the agency of the electrizing principle of the solar light, and of correspondent breadths of soil to the influences of air and heat; so that the roots may be enabled to extend right and left to a distance somewhat exceeding that of the height of the stems and foliage.

The potato called the *early champion*, was that with which I began my experiments, early in March, 1831. The soil was that of a pasture, a deep and brown sandy loam, upon a chalky subsoil, approaching to marl. This soil had been trenched in the autumn to the depth of two feet, and the turf inverted at the bottom of each trench. About eighty pounds of these potatoes were planted whole, in rows two feet asunder, running north and south, the sets about six inches apart, crown from crown. But as I could not obtain a sufficiency of the variety at the time, I was constrained to employ such as I had, and therefore the size of the potatoes was not attended to.—The rows were weeded early, and the stems advanced regularly till the fatally destructive 6th of May, when the frost destroyed and blackened every leaf that had fairly emerged from the surface. Thus I lost all the benefit that would have been otherwise derived from the early developed leaves; and consequently a considerable weight of the advancing crop. In a week or ten days, however, fresh shoots were protruded, and as the stems advanced they were deeply earthed up, that is, till the whole piece of ground had the appearance of so many ranks of ridges, the intervening spaces being twelve inches deep in the centre. This one effectual earthing up, sufficed, and the crop attained perfect maturity in due time. The total yield of potatoes (which were for the greatest part of a fair average size and of most excellent quality, mealy and fine flavor,) was five hundred and seventy-six pounds.

The *early frane* potato, planted the first week in March, was the subject of the second experiment. I had procured one peck weighing fourteen pounds, and the tubers were cut into small sets with one to three eyes each. The sets were planted in rows, pointing north and south, two feet asunder, the sets being four inches apart in the rows. The site was a garden plot, four yards by seven yards and a half, i.e., thirty square yards. The subsoil was a strong, stiff loam, and this was brought to the surface by deep trenching, just before it was cropped. This plot suffered also from the frost above alluded to. The final yield

was very great, (two hundred and fifty-nine pounds,) but the potatoes were far from being regular as to size; a great proportion were small, weighing little more than one or two ounces each, occasioned, I doubt not, by cutting the tubers into small sets.

The third experiment commenced the 25th of March, when I was enabled to procure a small supply of a variety styled *early champions*, but was evidently far from true to its kind. The potatoes were planted by the side of the first plot of champions, in rows two feet six inches asunder; the sets six inches apart, crown from crown. The total yield, digged up between August 25, and September 18, 1831, was one thousand two hundred and nine pounds.*

General deductions from facts.—First—I find that little or nothing is gained by planting before the middle of March [in England:] for if the frosts destroy the leaves as it did those of my first-sown champions, a great loss in the product of the tubers must inevitably be experienced. Secondly, early ripened potatoes will yield an earlier crop than others of the same variety, which have come to maturity at a later period of the preceding season. My first champions were produced by myself, from a few roots given to me by a neighbor in June, 1830. The land required to be trenched, and therefore the potatoes were not in the ground till the last week in the month; hence they scarcely ripened before the frost set in. The eighty-four pounds planted in April, had been produced at the usual season by a farmer, and they came in very early and yielded almost double the quantity of those first planted. It is but just, however to state that we commenced digging the latter, as early young potatoes, in July; and therefore, scarcely two-thirds remained to attain perfect maturity. Thirdly, ash-leaved kidneys, above all others, require to be planted whole; if they are not, many of them may not germinate at all. I tried an experiment during last year and it was decisive in its results. Henceforward I never intend to plant a cut set of this potato, nor a whole one of very small size. I trust that my experiments on each variety that I plant during the current season, will be conducted with a degree of precision and exactitude, that may enable me on a future occasion, to announce their particular routine and final results, in a way that shall leave no doubt of the efficacy of Mr. Knight's mode of culture.

(From the Raleigh (N. C.) Star.)

ALFALFA, OR SPANISH CLOVER.

The Western Carolinian publishes a letter from a gentleman in Valparaiso, Chili, (the late Editor of the Carolinian, and now Navy Agent on the Pacific station, we presume,) to his friend in Salisbury, which gives an interesting description of a valuable grass, a box of the seed of which, containing the twelfth of a bushel, he had also forwarded to the same individual. This grass, he says, is the clover of the Spaniards, and called, in the language of the country, Alfalfa.—It grows luxuriantly in all parts of Chili and Peru, and is the only kind of grass cultivated in those countries. It supercedes in a good degree the use of grain, for feeding both horses and cattle. All animals, whose food is herbaceous, eat it greedily; and they thrive better than on any thing else that can be given them; and horses that are fed on it altogether are remarkably hardy, performing journeys and enduring fatigues which in our country would appear incredible. It grows luxuriantly near Valparaiso, lat. 33 degrees south, on high and airy elevations, but, like every other crop in Chili, it must be irrigated twice or three times a week during the dry season.—It likewise thrives well in the valley of Lima, lat. 12 south, where it never rains. After it becomes thoroughly rooted, it will resist both drought and frost. The fibres of the root will continue to seek moisture

* The blossoms of every sort which produced any, were mostly pinched off as they appeared.

as it recedes from the surface until they extend themselves to the distance of fourteen or fifteen feet. The writer declares that he would not exchange a luxuriant field of this extraordinary grass for a moderately productive gold mine. He directs that the seed be distributed amongst several intelligent farmers and agricultural societies, for the purpose of making full and satisfactory experiments of its congeniality with our soil and climate.

[REMARKS.—We publish the above for the purpose of accompanying it with the remark, that the clover mentioned is most probably *Lucerna*. We have twice received seed from the same part of South America, said to be a new and superior variety of clover; but which proved to be lucerna, and the description given of the above is similar to those we received.—Ed. Am. Farmer.]

SILK GRASS.

Mr. Smith: Pocotaligo, S. C., May 18th, 1832.

Last summer, as a matter of curiosity, I cut a few leaves of what is vulgarly called here the silk grass. (I do not know the botanic name, but it is a species of agave, without thorns,) and to my surprise gave me fibres after water rotting, resembling those of which the South American grass twine is made. I have never seen any notice taken of it in this country.—Dossie in his *Memoirs of Agriculture*, (London, 1769,) says of it, that "The fibres are very long; and, when manufactured make thread, which has the glossiness of silk; but in strength far exceeds that, or any filamentous substance whatever." He also states it to be the grass of which Indian hammocks are made. I have some idea of cultivating it with a view to the making of some experiments with it, and as it is now in flower I hope to save plenty of seed.

Yours, respectfully, ROBERT CHISOLM.

[We are unable, from the description given by our correspondent, to ascertain what the grass is of which he speaks, and shall therefore be greatly obliged if some of our southern friends will favor us with an account of it. We should judge that it would be found an article of great importance for all kinds of cordage; particularly if it be one of the *long leaved* agaves.—Will Mr. C. oblige us with some of the seed when convenient?]

HORTICULTURE.

(From the Library of Useful Knowledge.)

PLANTING.

CHAPTER VIII.

Enumeration of the different species of Forest Trees.

(Continued from page 101.)

Cupuliferae. Nat. Sys.

Eng. Name. Bot. Name.

BEECH-TREE.

FAGUS.

Monoclea Polyandria. Linn.

MALE FLOWER—calyx, bell-shaped, five-cleft; corolla, none; stamina, five to twelve. FEMALE FLOWER—calyx, four-cleft; corolla, none; styles, two or three, three-cleft; seeds, an angular or three-cornered shaped nut, one or two contained in each mariccate capsule, which opens with four valves, and emits the seeds or nuts.

Time of sowing the seeds.—From October to February: they require particular protection from field-mice and other vermin. **Soil.**—Siliceous, sandy soils are well adapted for the growth of the beech; or it will attain a great size in elevated clayey loams incumbent on sand; it will prosper on chalky, stony, barren soils.

Uses.—It is used by cabinet-makers, turners, mill and wheel-wrights, for cogs, spokes, and fellocs. In the dockyards it is used for wedges, &c. It is also used by musical-instrument-makers for sounding-boards,

&c.; by coopers for clap-boards. Near large towns it is in great demand for billet-wood. It affords a large quantity of potash and good charcoal.

In Devonshire, where the severity of the western winds is great, the beech appears to withstand the bad effects better than most other kinds of trees, and this hardy habit of it renders it valuable for planting in high chalky and gravelly soils, where shelter is of so much importance to the surrounding lands. According to Vancouver, the beech and sycamore are found most powerful to resist the rigor of the westerly gales. The nuts, or *must*, of the beech afford an oil by expression, which the poorer inhabitants of Silesia are said to use as a substitute for butter. The nuts are sometimes roasted, and used for coffee. This tree is a native of the greater part of Europe, but is not found so far north as the northern provinces of Sweden. In England it prevails most in the range of chalk hills which run from Dorsetshire, through Wiltshire, Hampshire, Surrey, Sussex, and Kent, and more partially in Berkshire, Buckinghamshire, and Hertfordshire. It is not uncommon also on the Cotswold Hills in Gloucestershire, and in some parts of Monmouth. In Scotland, where its being indigenous is doubted, large plantations have been made, particularly by the Earl of Fife in Murrayshire, and by George Ross, Esq., of Cromarty. In certain cantons of Belgium, particularly near the village of St. Nicholas, between Ghent and Antwerp, very solid and elegant fences are made by planting young beeches seven or eight inches apart, and bent in opposite directions, so as to cross each other, and form a trellis. During the first season they are bound together by osiers at the points of intersection, and in time become grafted, forming apertures of four or five inches in diameter.

The bark of the American white beech is used for tanning leather, when there is a scarcity of oak bark: the leather made from it is white and durable, but inferior in this last respect to that tanned with oak bark. The purple or broad-leaved American beech is held in higher esteem in North America than the former. It is a hardier and larger-growing tree. The timber is described as being less compact or solid than that of the English beech; planks of it, however, three inches thick, are exported to England. In summer, while the sap is in the vessels of the wood, it is considered a superior season for felling the beech to that of winter; and Michaux states that experience has demonstrated the fact, that the timber felled in the former season is greatly more durable than that which is felled in winter.

Timber or Forest Species.

Cupuliferae. Nat. Sys.

BEECH-TREE.

FAGUS.

Monoclea Polyandria. Linn.

Comimon *sybotica* Britain 70

Species for Ornament, &c.

BEECH-TREE. FAGUS. Native of Ft.

Var. Purple *purpurea* Germany 30

Golden striped lvd. *fulva aurea*

Copper-leaved *cuprea*

Broad-leaved *ferruginea* N. Amer. 40

White *sybotica* — 30

Fern-leaved *comptoniaefol* —

Cupuliferae. Nat. Sys.

Eng. Name.

Bot. Name.

CHESTNUT.

CASTANEA.

Monoclea Polyandria. Linn.

MALE FLOWER—ament, naked; calyx, naked; corolla, five petals; stamina, ten to twenty. FEMALE FLOWER—calyx, five or six-leaved, imbricate, or covered with soft spines; corolla, none; stigma, pencil-shaped; seeds, nuts, three, ovate, three-sided, enclosed in a roundish capsule, covered with soft spines.

Time of sowing the seeds.—February. **Soil.**—A

rich sandy loam raises the chestnut to the greatest perfection as a timber tree; but it appears to come to great maturity in clayey soils, if free from stagnant moisture. It will thrive also in gravel or sand, if not in too bleak or exposed a situation. *Uses*.—The timber of the *Castanea vesca*, or sweet chestnut, is said to be equal to that of the oak. For underwood or shelter, in a favorable climate, there can be no doubt of its great value, affording a fall in every ten or twelve years for hop-poles, hoops, &c. The chestnut, if not originally a native of Britain, has at least been long naturalized in the climate. The most ancient tree of this species on record is probably that mentioned by Bradley, in Lord Ducie's park, at Totworth, Gloucestershire. He states that in 1150, it was the great chestnut of Totworth; and that, in 1720, it measured fifty-one feet in circumference at six feet from the ground. The same tree is mentioned, in 1791, by Lysons, who etched two views of it. This chestnut, it is highly probable, had lived a thousand years, and hence we may conclude its long duration in the soil. At Buckland, the seat of Robert Throckmorton, Esq., M. P., are to be seen some remarkably fine specimens of this tree; in several places in Kent, and on the banks of the Tamer, in Cornwall, all evincing the great perfection to which it arrives on a sandy, gravelly, or clayey loam. The wood, as already mentioned, is considered to be of equal value to that of the oak, and is applied to the same purposes; opinions, however, vary on the subject, and it is probable that the conclusions drawn from the supposed facts of the wood of the chestnut being found sound in very old buildings, are liable to some degree of doubt, inasmuch as a decisive proof of such wood being chestnut and not oak does not appear to have been brought forward. We have pointed out a certain means of identifying the wood of different species of trees. The value of the bark of the chestnut for tanning is inferior to oak bark, and the tree is not so hardy; with these deductions, and they are considerable, the two species of trees may be considered of equal interest to the planter. The value of the chestnut for coppice wood for the produce of hop-poles, is well known. The varieties of the common chestnut mentioned before are very ornamental trees. The American chestnut differs but little from the English. It is most common in the mountainous districts of the Carolinas and of Georgia, and it does not appear beyond the 44th degree of north latitude. It flourishes, Michaux states on the sides of mountains, where the soil in general is gravelly. The nuts are smaller and sweeter than those of the European species, and are sold at three dollars per bushel in the markets of New York, Philadelphia, and Baltimore. The wood is thought to be inferior to European species. In France that of the common chestnut is held in high esteem for coppice wood: it is cut every seven years for small hoops, &c.; at fourteen years for large hoops, and at twenty-five for posts and light timber. Land so occupied, it is stated, yields a rent superior to that under other kinds of crops in the proportion of four to one. The Chinapin chestnut is not otherwise remarkable than for the beauty of its foliage and the diminutive size of its fruit.

Timber or Forest Species.

CHESTNUT.	CASTANEA.	Native of Ft.
Sweet or Spanish	<i>v. vesca</i>	England 50
American	<i>Americana</i>	America —

Species for Ornament, &c.

CHESTNUT.	CASTANEA.	Native of Ft.
Var. Gold-striped	<i>v. vesca</i>	England 50
„ Silver	—	—
„ Fern-leaved	—	—
„ Shining-leaved	—	—
„ Dwarf or Chinapin	<i>pimila</i>	N. Amer. —

PLATANEE.	Nat. Sys.
Eng. Name.	Bot. Name.
PLANE-TREE.	PLATANUS.
<i>Monaccia Polyandria.</i>	<i>Linn.</i>

MALE FLOWER.—ament, globe-shaped; calyx, none; corolla, scarcely perceptible; anthers, growing around filament. **FEMALE FLOWER**.—calyx, 5, ament, globular; corolla, many-petalled; stigma, recurved; seed, roundish, with a foot stalk, terminated by an awl-shaped style, with a capillary pappus at the base.

Time of sowing the seeds.—Immediately after they are ripe, in a moist, shady situation, or by layers and cuttings in March. *Soil*.—This tree prefers moist loam, but free from stagnant moisture. *Uses*.—Except for fuel, the timber appears to be of little value. The trees are admired for their beautiful shade. The oriental plane is highly praised by ancient writers.—Elian and Pliny extol it for the magnitude of its growth and beauty of form. It is generally believed that this tree was introduced into England by the great Lord Chancellor Bacon, although its introduction, according to Turner's Herbal, is set down as in 1562, or one year before the birth of that illustrious man; one thing is certain, that his plantation of it at Verulam first brought this tree into public notice.—Its culture of late years has fallen into disrepute from the inferior quality of its timber. The American plane, or button-wood, is also a tree of large growth. Michaux measured one on the banks of the Ohio, whose stem, at five feet from the ground, gave forty-seven feet in circumference. This tree being more tender, or liable to be injured by the late spring frosts, has been sparingly planted of late years in England, and its wood is not of more value than the former.

Timber or Forest Species.

PLANE-TREE.	PLATANUS.
Oriental	<i>orientalis</i> Levant 50
American	<i>occidentalis</i> N. Amer. 70
Spanish	<i>acrifolia</i> Levant —

Species for Ornament, &c.

PLANE-TREE.	PLATANUS.	Native of Ft.
Wave-leaved	<i>cuneata</i>	Levant 50
Eng. Name.	Bot. Name.	
SWEET GUM-TREE.	LIQUIDAMBER.	

MALE FLOWER.—ament, conical, common; calyx, or involucre, four-leaved; corolla, none; filaments, numerous. **FEMALE FLOWER**.—calyx, in a globe, four-leaved; corolla, none; styles, two; capsule, two, enclosed at the base by the calyx, one-celled; seeds, many.

Time of sowing the seeds.—Spring, in pots or boxes of light earth; to be shaded during summer, and protected from severe frosts in winter: may be propagated also by layers. *Soil*.—It will succeed best in a sandy loam, but will thrive in most kinds of soils of an intermediate quality between moisture and dryness.—*Use*.—Ornamental.

Species for Ornament, &c.

SWEET GUM-TREE.	LIQUIDAMBER.
Maple-leaved	<i>styraciflora</i> N. Amer. 30
Oriental	<i>imbric</i> —

CONIFEREE.

Subordo Taxineae. Nat. Sys.

MAIDENHAIR-TREE.	SALISBURIA.
<i>Monaccia Polyandria.</i>	<i>Linn.</i>

MALE FLOWER.—ament naked, filiform; corolla, none; anthers, incumbent, deltoid. **FEMALE FLOWER**.—solitary; calyx, four-cleft; seed, a drupe with a triangular shell. Propagated by cuttings.

Time of sowing.—Propagated by layers. *Soil*.—A sandy loam. *Uses*.—Habit of growth and ornamental foliage.

Species for Ornament, &c.

Maidenhair-tree	<i>adiantifolia</i>	Japan 20
-----------------	---------------------	----------

YEW-TREE.	TAXUS.
<i>Diceia Monadelphica.</i>	<i>Linn.</i>

MALE FLOWER.—calyx, none, except a four-leaved perianth like a bud; corolla, none; stamina, many; anthers, beak-like-shaped, eight-cleft. **FEMALE FLOWER**.—corolla, none; style, none; seed, ovate, oblong, projecting with its apex beyond the berry, which is seated in a globular cup.

Time of sowing seeds.—Autumn, as soon as they are ripe. *Soil*.—Sandy loam; but it will also grow in most kinds of soils, particularly such as are chalky. *Uses*.—Hedges for shelter. The wood is used by turners, inlayers, and cabinet makers. It is much valued for flood-gates for fish-ponds, axletrees, cogs of mills, &c., bowls, wheels, and pins for pulleys, and by turners for spoons, cups, &c. It has been disputed whether the yew is poisonous or not: the facts, however, in confirmation of the poisonous nature of the whole plant are too numerous to admit of rational doubt, and consequently, great caution should be employed in planting it out of the reach of the more valuable domestic animals. That the berries have been eaten in very small quantities with impunity seems to be admitted; and also that sheep and goats, according to Linnaeus, are less affected by taking it into the stomach, than horses and cows. The yew is a native of Britain, as well as of other parts of Europe, of North America, and Japan. The yew tree was formerly what the oak now is, the basis of our strength, for of it the old English yeoman made his bow, as he now makes of the oak his seventy-four gun man of war.

The number of remarkable yew trees in different parts of the country are very interesting; and how much more so would they be rendered, had we records of the periods when they were planted! but we must, from want of space, refer the reader to Evelyn, Gilpin, Barrington in Archaeologia. vii., xlviii., and liii., and to Martyn's Edition of Miller's Gardener's Dictionary on this point.

Species for Ornament, &c.

YEW-TREE.	TAXUS.	Native of Ft.
Common	<i>baccata</i>	Britain 20
Var. Striped-leaved	—	—
Upright or Irish	<i>Hibernica</i>	—
Eng. Name.	Bot. Name.	
JUNIPER-TREE.	JUNIPERUS.	

Subordo Cupressinae.

MALE FLOWER.—calyx, of the ament, a scale; corolla, none; stamina, three. **FEMALE FLOWER**.—calyx, three-parted; petals, three; styles, three; pericarp, or covering of the seed, a fleshy berry, irregular with the three tubercles of the calyx, seeds, three, bone-like, convex on one side and cornered on the other, oblong-shaped.

Soil.—Light, silicious, sandy soils. *Uses*.—The common juniper-bush is esteemed for its beauty as a shrub, and likewise for its berries, which are used by distillers and rectifiers of ardent spirits. The plants are useful for ornament, when planted by the margins of woods. The red cedar, *Juniperus Virginica*, attains to the size of a timber tree in deep sandy loam soils. In that part of Woburn Abbey Park called the Evergreens, said to have been planted by Miller, the celebrated author of the Gardener's Dictionary, are to be seen some remarkably fine specimens of this tree. In North America it is found wild as far as the forty-fourth and forty-fifth degrees. Michaux observes, that it becomes less common, and diminishes in size as it retires from the sea-coast. In favorable situations, as in the middle of small islands, and on the borders of the narrow sounds that flow between them and the main, it is forty and forty-five feet in height, and twelve or fourteen inches in diameter. The wood is fragrant and fine grained, strong and durable. In America, the wood is not plentiful, and is reserved for those more important purposes for which these properties are most required.

The white cedar grows naturally in wet grounds

in the marine lands of Maryland, Virginia, and New Jersey. There it attains to seventy and eighty feet in height. The wood is lighter than that of the red cedar, and is less durable. It is of slow growth in England, and even in its native soil, for Michaux counted two hundred and seventy-seven annual growths in a stem only twenty-one inches in diameter. The wood is fabricated into pales, wash-tubs, and churns.

Species for Ornament, &c.

JUNIPER-TREE.	JUNIPERUS.	Native of	Ft.
Spanish	<i>thurifera</i>	S. Europe	—
Tall	<i>excelsa</i>	Siberia	20
Red cedar	<i>virginiana</i>	N. Amer.	30
Savin	<i>sabina</i>	S. Europe	—
Var. Striped leaved	<i>variegata</i>	—	—
„ Tamarisk-leaved	<i>tamariscifolia</i>	—	—
Daurian	<i>daurica</i>	Dauria	—
Common	<i>communis</i>	Britain	—
Var. Swedish	<i>suecica</i>	N. Europe	—
„ Brown-berried	<i>oxycedrus</i>	Spain	—
Phœnician	<i>phœnicia</i>	S. Europe	—
Lycian	<i>lycia</i>	—	—
Scaly-branched	<i>squamata</i>	Nepal	—
Prostrate Juniper	<i>prostrata</i>	N. Amer.	—
Hemispherical	<i>hemisphærica</i>	Sicily	—
Oblong	<i>oblonga</i>	Armenia	—
Daurian	<i>daurica</i>	Dauria	—

Eng. Name.

Bot. Name.

ARBOR-VITE.

THUJA.

Calyx, five-parted; *petals*, five; *capsule*, three-celled; *seeds*, solitary, very smooth, obtuse at the base, mucronate and curved inwards.

Time of sowing the seeds—Spring, or as soon as the seeds are ripe. Sow in pots filled with a mixture of peat and loam. The plants are, however, generally propagated by layers—the first sometimes by cuttings. *Soil*—Moist, sandy loams suit these trees best; they however attain to fine trees even in damp clayey soils, or in dry sandy soils. *Uses*—They are ornamental evergreens for the fronts of plantations.—The American arbor-vite is the only species which comes properly under the notice of the forest-planter. The value of the wood is considerable; it is slightly odorous, very light and soft grained. In Canada, according to Michaux, it holds the first place for durability. Fences made of it last three or four times as long as those of any other species. The leaves are made into a salve with hog's lard, and used in Canada for rheumatic pains.

Species for Ornament, &c.

ARBOR-VITE.	THUJA.	
American	<i>occidentalis</i>	N. Amer. 25
Var. Close branched	<i>densa</i>	—
Chinese	<i>orientalis</i>	China —
Plaited	<i>plicata</i>	Nootka Snd.
Weeping	<i>pendula</i>	Tartary
Lucas'	<i>Caroliniana</i>	Carolina

CYPRESS-TREE.

CUPRESSUS.

MALE FLOWER—*ament*, imbricated; *calyx*, of one scale; *corolla*, none; *anthers*, four, and sitting, without filaments. *FEMALE FLOWER*—*ament*, changing to a strobile; *calyx*, one-flowered; *corolla*, none; *stigma*, two, concave, points; *seed*, an angular nut.

Time of sowing the seeds—Spring, in a warm situation, or in pots, in dry light earth: to be kept in the cones until the period of sowing. *Soil*—This tree delights most in a sandy loam, but it will also thrive and grow to a considerable height in clayey soils.—*Use*—Ornamental and economical, as regards the wood of the evergreen and deciduous cypresses. The wood of the upright evergreen cypress is said to resist the attacks of worms, and all putrefaction for many years. Professor Martyn says, that the doors of St. Peter's Church at Rome were built of this wood, and which lasted eleven hundred years, or from Constantine to Pope Eugenius the Fourth's time. This tree

deserves to be more attended to by the British planter than it is at present. The deciduous cypress attains to a timber size in England, although it is of slow growth. Having been hitherto planted with a view to ornament rather than to economy for timber, its merits have not been proved in England. In North America its wood is highly valued, and in Louisiana, it is said to be profitably substituted for the white oak and pine. It attains to the largest size in low, damp, or swampy soils, in the southern states, rising to one hundred and twenty feet in height, and from twenty-five to forty feet in circumference.

Species for Ornament, &c.

CYPRESS-TREE.	CUPRESSUS.	Native of	Ft.
Upright	<i>sempervirens</i>	Candia	20
Var. Spreading	<i>horizontalis</i>	—	—
Portugal, or Cedar	<i>lusitana</i>	Portugal	—
of Goa	<i>thyoides</i>	N. Amer.	—
White	<i>distichum</i>	—	—
Com. deciduous	<i>nitens</i>	—	—
Var. Long leaved	<i>turida</i>	Nepal	—
Twisting	—	—	—

(To be continued.)

(From the Transactions of the American Philosophical Society.)

CULTIVATION OF PEACH TREES.

Description of a method of cultivating Peach Trees, with a view to prevent their premature decay; confirmed by the experience of forty-five years, in Delaware State, and the western parts of Pennsylvania. By Thomas Coulter, Esq., of Bedford County, Penn.

The death of young peach trees is principally owing to planting, transplanting, and pruning the same stock, which occasions it to be open and tender, with a rough bark; in consequence of which, insects lodge and breed in it and birds search after them, whereby wounds are made, the gum exudes, and in a few years the tree is useless. To prevent this, transplant your trees as young as possible, if in the kernel it will be best, as there will then be no check of growth. Plant them sixteen feet apart. Plough and harrow between them for two years without regard to wounding them, but avoid tearing them up by the roots. In the month of March or April, in the third year after transplanting, cut them all off by the ground, plough and harrow among them as before, but with great care to avoid wounding or tearing them. Suffer all the sprouts or scions to grow, even if they should amount to half a dozen or more; they become bearing trees almost instantaneously, on account of the strength of the root. Allow no animals but hogs to enter your orchard, for fear of their wounding the shoots; as a substance drains away through the least wound, which is essential to the health of the tree and the good quality of the fruit.

If the old stock is cut away the third year after transplanting, no more shoots will come to maturity than the old stump can support and nourish; the remainder will die before they bear fruit, and may be cut away, taking care not to wound any other stock. The sprouts, when loaded with fruit, will bend and rest on the ground in every direction for many years, all of them being rooted as if they had been planted, their stocks remaining tough and their bark smooth, for twenty years and upwards. If any of the sprouts from the old stump should happen to split off and die, cut them away, they will be supplied from the ground by others, so that you may have trees from the same for one hundred years, as I believe. I have now trees from one to thirty-six years old, all from the same stump. Young trees, formed in this manner, will bear fruit the second year; but this fruit will not ripen so early as the fruit on the older trees from the same stump. Three years after the trees are cut off, the shoots will be sufficiently large and bushy to shade the ground so as to prevent the growth of grass,

that might injure the trees; therefore ploughing will be useless, and may be injurious by wounding them.

It is also unnecessary to manure peach trees, as the fruit of manured trees is always smaller and inferior to that of trees which are not manured. By manuring, you make the peach trees larger, and apparently more flourishing, but their fruit will be of a bad kind, looking as green as the leaves, even when ripe, and later than that of trees which have not been manured. Peach trees never require a rich soil; the poorer the soil the better the fruit; a middling soil produces the most bountiful crop. The highest ground is the best for peach trees, and the north side of hills is most desirable, as it retards vegetation, and prevents the destructive effects of late frosts which occur in the month of April, in Pennsylvania. Convinced by long experience, of the truth of these observations, the author wishes they may be published for public benefit, and has been informed, that Col. Luther Martin and another gentleman, in the lower part of Maryland, have adopted a similar plan with great advantage.

By the above process it is of course not pretended that any particular variety of the peach can be certainly produced—nothing but a chance medley of varieties can be expected.—*Ed. Am. Farmer.*

RED BEETS.

Red beets furnish from a given surface of ground, a greater quantity of nutriment for horses and cattle, than any other kind of forage. Wherever its cultivation is understood, it has the preference over all other roots. It succeeds in almost all soils, is but little affected by the vicissitudes of seasons, does not much fear drought; and prepares the ground very well for a succeeding crop.

Throughout Belgium and Germany, the leaves are from time to time, stripped off and given to cattle, which eat them with avidity, and easily fatten upon them. Fowls are also fed upon them; they are first hashed up and mixed with bran. Pigs eat them with a good relish. Milk cows, when fed upon them, fatten at the expense of their milk. The leaves are equally valuable in the fattening of cattle and sheep.

Beets should be gathered when the weather is dry, and put away in a dry state; and when prepared for cattle, they must be cut up fine with some suitable instrument, and may be given either alone or mixed with straw or hay.

They are equally fit for horses, with the precaution of adding a variety of cut straw and hay, well mixed together. This food will preserve them strong and vigorous, as is well ascertained in Germany, where beets are much cultivated for this purpose.

For the fattening of a bullock, forty or fifty lbs. of beets per day, mixed with five or six lbs. of dry fodder, will accomplish the object in the space of four months. Care must be taken to give it in three separations, since, by feeding often, and in small quantities at a time, the same amount of nutriment goes farther.

Finally, by facilitating the means of stable fattening, throughout the year, beets furnish a very important addition to this means of augmenting the mass of valuable manure.

They may serve also, on occasion, for the food of men; they are less subject to the vicissitudes of seasons than turnips, and their leaves supply, for several months, an excellent food for cattle. The root may be easily preserved during eight months of the year. They give to milk an excellent taste and quality.—Cattle eat them with avidity, and are never tired of them. The culture of no forage root can compare with that of the beet in the number of advantages which the industrious cultivator may derive from them. We cannot too strongly recommend the introduction of them into places where they are not already in vogue.—*Bib. Univ. for June, 1831.*

(From the New York Farmer.)

CULTIVATION OF WATER-MELONS.

Middlesex, May 10, 1832.

In a paper of the 26th of April, I notice an extract of a letter from a member of Congress on the subject of the cultivation of the water-melon. I think the mode recommended by him is much too tedious and expensive, and not better calculated to produce the desired effect than a more simple and cheap mode which is practised at the south. On this subject I have had some little experience, the result of which I am willing to communicate for the benefit of your readers and others.

About the year 1802 I had some grounds ridged for sweet potatoes; when about to plant my foreman asked me for some water-melon seeds; I gave him about a gill, which he distributed among the planting hands, directing them to plant one seed once in about a rod, near the top of the ridge.

These vines grew and flourished astonishingly, producing from four to six melons each, most of which were three feet long and from six to nine inches in diameter, of very fine flavor and sold readily at the Savannah market, at from 62½ to 75 cents each, so that I received about \$3.75 from each vine.

The same season, I took unwearied pains to prepare about an acre of ground, which I directed to be planted on a level in the Yankee fashion. My foreman, old Tom, told me, "*him no do mass, him all spoil*;" in fact I never scraped 5 dollars profit from the whole acre. The sun and rain spoilt the whole of them.—My cow yard contained about a quarter of an acre; I ridged about half of it, and planted it with water-melons; from this small patch I sold rising of 75 dollars worth of melons. The patches were all planted from the same seed, and the soil was clear sand; I am therefore inclined to believe that the difference in the produce was not owing to the seed, and that sand is no preventive to the depredations of the yellow bug. The best preventive against them is, to make small boxes about 8 inches square, cover these with millinet as soon as the vines appear above ground, put on the boxes, and keep them on until the vines have put out their third leaf, when the boxes may be removed for the season, as no bugs will trouble them afterwards.

R. M. W.

(From the New York Farmer.)

STRAWBERRIES.—This delicious fruit was in the New York markets, on the 25th of May. On the 28th they were selling at twenty-two cents per basket.

[Query. How many in a "basket"—a pint or a peck? They were selling in Baltimore about the same time at ten to twelve and a half cents per quart.—*Ed. Am. Farmer.*]

RURAL ECONOMY.

(From the Massachusetts Agricultural Repository and Journal.)

IMPORTED STOCK.

Boston, March 22, 1832.

To the Publishing Committee of the Massachusetts Society for promoting Agriculture:

GENTLEMEN,—It is certainly to be regretted, that some respectable farmers show a disposition not only to indulge prejudices against the imported breeds of cattle, but to excite these impressions on the minds of others. They appeal to a popular feeling, and a very natural one, which too easily besets us—"our own superiority." "The true worth of our ancient breed," says one, "as to their competition, is very much neglected." Again—"our old accustomed breeds are unnoticed." In the most approved practices of breeding of stock, perhaps no better reason need be given

for a change, than this very fact, that it is our *old accustomed breed*, on which a cross would be beneficial for that cause only. As the disadvantage of breeding "in and in" for a length of time, has been admitted, the principle of a change of breed or cross, by judicious selections, has, it is believed, induced almost universal assent and practice.

Some contend, that a given weight may be placed on any part of animals to correct a deficiency; and others, that every disposition and property may be improved by a skilful observation and practice herein. The attention of agriculturists in Europe, has been for the greater part of the last century, engaged in this process. In England more especially—if we can believe all we see, or all we hear, or any part of it—animals of extraordinary production, as well as those of great beauty; size and power, with a favorable disposition to fatten, have been brought to view. Instances might be here quoted, but they are too well known to need it. Wherever, in any country, a judicious selection of stock has been in careful continued practice, we must shut our eyes and seal up our senses not to perceive the beneficial result. And why should we doubt our power in this particular? It seems the all-wise intention in our condition, that we should cultivate and improve every thing about us! And do we not so do? How is it with the horse and various other animals? Are they not bred and reared for various uses, by careful selection and attention? And why should we easily and indolently admit that nothing is to be effected in our cattle, forming, as they do, the great sources of our comfort and support?

But though our efforts in this country may have been less strenuous and uniform, and for a shorter period of time, still we do not want proofs of what may be done at home. Our cattle are susceptible of improvement, as the Sutton race will show. Those who most dislike the imported breed, tell of some native stock in their neighbourhood which is superior. Be it so! Our stock was mostly derived from Great Britain, and is doubtless as capable of improvement.

All that is to be said, is, that when that which time only can produce, has for nearly a century been in careful progression, a prudent consideration will avail of the advantage.

It is further complained, "that much is said of the imported, and little or nothing of our native stock." If this alludes to any general expression or opinion, it will have its due weight and no more. But the object of the Massachusetts Agricultural Society has been to promote a *judicious selection*, as the *great thing necessary*, and so their committees have uniformly urged. The premiums on milch animals have been mostly given to native stock; it is believed; some to the imported breed to be sure; the far greater number of the former makes this natural. In many cases the richness of the milk in the imported breed, has been remarkable; and their general size, proportion and beauty, has been thought to exceed our old race.

The disappointment of a farmer, who has paid a large price for an animal (as has occurred) that has long legs and "a bag that is difficult to be found," is to be regretted, but these things will sometimes happen. But it is earnestly contended for in Europe and by many here, that where there has been a long transmission of improved blood in stock, this occurs much more rarely!

The improved short horns are not generally esteemed a long-legged race; many of them are great milkers; though for this property they are thought by some to have too great a tendency to become fat. By this facility they often disappoint those who wish to increase their breed. This disposition to fatten is so felt in England, that at their Smithfield cattle-show last year, it was proudly said, "Foreigners may boast of their sunny climes, of the spontaneous produce of their soil, of their grapes and their wine, and their olive yards, but no land but England can boast of their *fat cattle-show*."

The object of the trustees of Massachusetts Agri-

cultural Society, is to encourage whatever is connected with the great staples of the country—not to write down one race of cattle and set up another. Whatever means are at hand, let them be made use of.—But if others and superior can be had from abroad, brought home and used to greater advantage, let us not be too steadfast in our old habits and practices, lest we should perceive too late, that we have stood still while others have advanced.

I am yours,

JOHN WELLES.

MISCELLANEOUS.

(From a late London paper.)

CHLORINE GAS.

This gas is that which is considered by medical men as the most powerful disinfectant and preventor of contagion. It is certain that it is most effectual in almost instantly stopping bad smells, whether arising from drains, or from putrid animal or vegetable matter.

Hence its use has now become very general.—There are various modes of obtaining it, and of course the chemists, studying their own interest, recommend that by which they obtain the largest profit: namely, the use of chloride of lime. This chemical preparation is to be put into a vessel of water, and in a short while a certain portion of the chlorine is taken up in the water, and when this water is sprinkled about a house, the chlorine gas rising into the air, during the process of evaporation, stops bad smells, and is supposed, chiefly on this account, to have a power of counteracting contagion. By far the cheapest mode, as well as the most convenient of obtaining chlorine gas is to take the black oxide of manganese and muriatic acid.

If a quarter of a pound of black oxide of manganese be put into a cup or basin, and about a tea spoonful of muriatic acid poured upon it, there will soon rise sufficient chlorine gas for a large room. It may be necessary to add every day a little acid, and to shake the manganese a little. If too much acid be used, the chlorine will be felt to be unpleasant. The manganese will not lose its efficacy for a fortnight. As manganese is sold wholesale at ten or twelve shillings the cwt. and is retailed for four pence a pound, and muriatic acid is sold wholesale for about three half pence the pound in measure, and is retailed at a reasonable rate to the ounce by every chemist, for less than the expense of two pence, and with little or no trouble, a suite of apartments may be kept disinfected for a fortnight. To use an equally efficient amount of chloride of lime would cost fifty times the money, and be very troublesome. Why have none of the Boards of Health given this information to the public? No other answer can be given except that three-fourths of the members knew nothing at all what they were about, and the other fourth had an interest in keeping them and the public in the dark. From chloride of lime the chemists have derived a profit, unusual even in their trade. For instance, about the amount of one ounce put in water, will make sixteen bottles of bleaching liquid, which are sold at half a crown each; together, two pounds. The chloride of lime cost the chemist just one halfpenny. It is true the bottles and corks cost something in addition.

But to return to the making of chlorine gas from manganese and muriatic acid, which is of the greatest importance to our readers, who may wish to take precautions against the real or imaginary contagion of cholera. The explanation will be familiar to our scientific readers. Muriatic acid was ascertained by Sir Humphrey Davy to be composed of chlorine and hydrogen. When it is poured on the black oxide of manganese, it is decomposed into two constituent parts, the hydrogen uniting with the oxygen of the oxide and forming water, whilst the chlorine rises in the form of gas.

Prices Current in New York, June 9.

Beeswax, yellow 18 a 20. Cotton, New Orleans 10½ a 13; Upland, 8½ a 11; Alabama, 9 a 11½. Cotton Bagging, 11emp. yd. 14½ a 17; Flax 13 a 14½; Flax, American, 7 a 8. Flaxseed, 7 bush. clean —; rough —; Flour, N. York, bbl. 5.75 a —; Canal, 6.12 a 6.37; Balt. Hwd-st. 6.50 a —; Rhd. city mills — a —; country, 5.94 a —; Alexand'a, 6.12 a 6.50; Fredericksburg 5.75 a —; Petersg. — a —; Rye Flour, 4.25 a 4.37; Indian Meal, per bbl. 3.25 a 3.50 per hhd; 1.15 a 1.25; Grain, Wheat, North, — a —; Vir. 1.15 a 1.25; Rye, 75 a 85; Corn, Vel. Nor. — a 65; Barley, — a —; Oats, Sth. and North, 48 a 56. Peas, white, dry, 7bu. 5. Beans, 7bu. 7.00 a 8.00; Provisions, Beef, mess 8.50 a 10.75; prime 5.57½ a 6.00 cargo — a —; Lard, 7½ a 8½; Pork, mess, bbl. 12.75 a 14.00; prime 10.25 a 10.81.

TURNIP SEEDS.

As the season for sowing Turnips is at hand, we offer for sale at the American Farmer Office and Seed Store, the following choice kinds of Seeds, which may be relied on as fresh and genuine, viz.

EARLY DUTCH,	WHITE FLAT
EARLY WHITE DUTCH,	Do do NORFOLK,
GARDEN STONE,	RED TOP,
YELLOW ABERDEEN,	YELLOW FLAT,
YELLOW BULLOCK,	RUTA BAGA,
LARGE NORFOLK FIELD.	

Also the following choice PUMPKIN SEEDS: Connecticut Field, or Northern; Mammoth; Pennsylvania Field, and Cushaw.

THE SYLVA AMERICANA;

Or a Description of the FOREST TREES indigenous to the United States, Practically and Botanically considered. Illustrated by more than one hundred Engravings. By D. J. BROWNE.

Just received and for sale at the American Farmer Office and Seed Store. Price 2.50.

DEVON CALVES.

For sale, if taken immediately, a full blood Devon Bull Calf, 4 weeks old. Price \$50.

Also, a three-quarter blood Devon Heifer, same age. Price \$30.

Both these are beautiful animals, and will not be sold at these prices unless taken immediately.

Address I. I. Hitchcock at this office. May 18. 11.

DURHAM SHORT HORN BULL CALF.

A full blood improved Durham Short Horn Bull Calf, by Gloucester, out of a first rate thorough bred Cow, four months old, well formed, of good size and points, for sale by the Editor of the American Farmer. Price, if immediately taken, \$150. Apply to I. I. Hitchcock, office of the American Farmer.

AGRICULTURAL IMPLEMENTS AND FRESH GARDEN SEEDS.

The subscriber offers at his store and manufactory, No. 36 Pratt street, between Hanover and Charles streets, a great variety of AGRICULTURAL IMPLEMENTS, consisting of his Patent Cylindrical STRAW CUTTERS; Gideon Davis' Patent PLOUGHS, with cast and wrought shares, and Castings for the same to supply those worn out; Substratum and Shovel Ploughs; Harrows; Robin's Patent Corn Planter; Corn Cultivators, Corn Shellers; Wheat Fans; Wire Fences, Hay and Manure Forks, by the single or dozen; Grass and Grain Seythes; Grain Cradles; Hay Rakes, Mattocks; Picks and Grubbing Hoes; Weeding and Hilling Hoes. A variety of Garden and Horticultural TOOLS, &c. &c. Those articles manufactured by himself special pains have been taken to procure the best materials and to have the work executed in the best manner.

Also, a great variety of GARDEN SEEDS, both European and American, and all of last year's growth, embracing a great variety of Beans, Cabbages, Radishes, late Peas, Bone Seed, &c. And the following FIELD SEEDS, viz: Tall Meadow Oat Grass; Lucerne, of Prime Quality; Mangle Wurtzel, Ruta Baga; Large Yellow Pumpkin, by the quart or bushel; and White Italian Mulberry SEED, of prime quality.

J. S. EASTMAN.

VALUABLE COW AND CALF FOR SALE.

A COW, six years old, with a young BULL CALF, of the celebrated Teeswater and Holderness Breeds, will be sold cheap if immediate application be made. The ancestors of these animals, (a full bred Holderness Bull, and two full bred Teeswater Heifers) were brought to this country by Richard Parkinson, of Doncaster, (England) and their progeny have been kept unmixed to the present time. This cross is said to be the origin of the Short horn Durham Cattle. The breeder of the Cow and Calf, (in whose possession the breed has been since their arrival from England,) prefers this race, as milkers, to any other. The Calf is a fine formed animal two months old. Apply to I. I. Hitchcock at the Office of the American Farmer.

June 1.

WOOL.

LYMAN REED, COMMISSION MERCHANT, No. 195 Baltimore Street, Baltimore, grateful for the patronage of his friends and the public, again tenders his services, assuring them that any consignments of WOOL, forwarded to him for sale, will receive particular attention. He wishes individuals to bear in mind the fact, that his time and attention are devoted entirely and exclusively to the SALE OF WOOL on commission only. Therefore on every consignment of Wool forwarded to him the utmost exertions will be made to promote the interest of his consignors. His time being devoted entirely to the article, and having had many years' experience in the business, he flatters himself that he can render more satisfactory sales, than persons unacquainted with the value and various grades and qualities of the article. He is weekly furnished by regular correspondents in Great and New York, with a price current, and correct information of the value in those markets; and whenever better prices can be obtained there, he has arrangements made with experienced and responsible houses in those cities, to receive and dispose of any consignments which he may have orders to forward to those places.

All letters addressed to him (post paid), asking information respecting prices, &c. will receive immediate attention.

L. R. has leave to refer to

Timothy, Shaw & Co.,	Baltimore.
Cobb, Wyman & Co.,	do
David H. Thompson, Frederick, Md.	
G. W. Rutter & Co. Uniontown, Pa.	
Zane & Pentony, Wheeling, Va.	
Isaac Hoff, Winchester, Va.	
Allison Owen, Cincinnati, Ohio.	
Russell and Matthews, Zanesville, do.	
J. Armstrong & Son, Maysville, Ky.	
Liesly Combs, Esq. Lexington, do.	
Muir & Wiley,	Louisville, do.
Lawrence & Anderson,	do



CORN CULTIVATORS, HARVEST TOOLS, &c.

The subscribers have prepared a good stock of CORN CULTIVATORS, both wrought and cast times; GRAIN CRADLES, with best quality warranted Seythes attached; GRASS SCYTHES and SNEADS ready hung or separate; Steel Hay, Grain, Manure FORKS and improved Wheat Fans. They are also now manufacturing and preparing to furnish Lane's Patent THRASHING MACHINE at \$75. Horse Powers \$75, which, together with their usual stock of Ploughs and other Agricultural Implements, are offered for sale on accommodating terms.

Also a supply of SWEET POTATO ROOTS, for planting. SINCLAIR & MOORE, Grant street, near Pratt street wharf.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—The prices of flour and wheat continue to advance, owing entirely to the scarcity of grain in market. City mills flour for shipping has been sold at \$6.50, and Susquehanna red wheat has been sold at \$1.35 per bushel. Two cargoes of corn have just been sold at 67 cents, and oats at 45 cents.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for cigars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 20.00.—Virginia, 4.00 a —.—Happabannock, 3.00 a 4.00.—Kentucky, 3.00 a 4.00.—The inspections of the week commence 981 hhd. Md.; 78 hhd. Ohio; 97 hhd. Ken. and 3 hds. Penn.—total 1159 hhd.

Flour—best white wheat family, \$6.75 a 7.25; super Howard-street, 6.50 a — city mills, 6.25 a 6.50 Susq. 6.25 a —; CORN MEAL bbl. 3.50; GRAIN, best red wheat, 1.30 a 1.35; white do 1.35; Susq. 1.30, a 1.35 —Corn, white, 66 a 67; yellow 66 a 67; RYE, 55 a —OATS, 45 a —BEANS, 75 a 80—PEAS, 55 a 70—CLOVER-SEED — a —TIMOTHY, — a —ORCHARD GRASS — a —Tall Meadow Oat Grass — a —Herds, 75 a 87½—Lucerne — a 37½ lb.—BASTY, — a —16.50—Cotton, Va. 80½ lb.—Low 9 a 13—Alab. 9 a 11½—Tenn. 5 a 10; N. Car. 8 a 10—Upland 8 a 11½—Whiskey, hhd. 1st pr. 23 a — in bbls. 30 a 31—Wool, Washed, Prime or Saxony Fleece 50 a 60; American Full Blood, 45 a 50; three quarters do 40 a 45; half do 35 a 40; quarter do 30 a 35; common 25 a 30. Unwashed, Prime or Saxony Fleece, 30 a 35; American Full Blood, 27 a 30; three quarters do 25 a 27; half do 22 a 25; quarter do 20 a 23; common, 17 a 50 New, Russia, ton, \$225 a 230; Country, dew-rotted, — a 7c. lb. water-rotted, 7½ a 8c.—Feathers, 38½ a 37; Plaster Paris, per ton, 4.25 a —, ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.75 a 6.50.—Oak wood, 3.25 a 3.50.—Hickory, 4.50 a —.

CONTENTS OF THIS NUMBER.

New Chinese Mulberry; Remarks on its Advantage^s in Feeding Silkworms, by the Editor—Sheep, Comparative Value of the Merino and Saxony Breeds, with some General Observations on their Management, &c.—On the Cultivation of Potatoes—Account of the Alfalfa or Spanish Clover—Letter from Mr. Robert Chisolm giving an Account of a Species of Silk Grass—Planting; Enumeration of the Different Species of Forest Trees—Cultivation of Peach Trees with a View to Prevent their Premature Decay—Red Beets Used in Germany as Food for Horses and Cattle—Simple and Profitable Method of Cultivating Water-melons—Prices of Strawberries in New York and Baltimore—Improvement of our Cattle Recommended by Crossing on the Best Imported Breeds—Directions for Making Chlorine Gas, to be used as a Disinfecter and Preventer of Contagion—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, basement of Barnum's City Hotel,) by I. IRVINE HITCHCOCK, on the following

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged by the year, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of its subscription; that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, and no communications intended for publication, and letters containing money.

—All Postmasters are requested to act as agents for the Farmer; they are authorized to retain \$1 for each new subscriber, and 10 per cent. on all other collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, JUNE 22, 1832.

RUFFIN ON CALCAREOUS MANURES.—In behalf of the agricultural community, we most heartily thank Mr. Edmund Ruffin, of Virginia, for his Essay on Calcareous Manures. It is, without an exception, the best work of the kind extant. The book contains 242 pages, 12 mo., and in that brief space the following subjects are discussed:—General description of earths and soils; the soils and state of agriculture of the tide water district of Virginia; the capacities of soils for improvement; effects of the presence of calcareous earth in soils; results of the chemical examinations of various soils; chemical examination of rich soils containing no calcareous earth; proofs of the existence of acid and neutral soils; the mode of operation of calcareous earth in soils; the practical effects of calcareous manures; effects of the same on acid soils reduced by cultivation, also on exhausted acid soils under their second growth of trees, and on neutral soils, alone, or with gypsum; damage caused by calcareous manures and its remedies; recapitulation of the effects of calcareous manures and directions for their most profitable application; their permanency; their expense and profit; directions for digging and carting marl; different significations of calcareous earth; names usually given to soils often incorrect; some effects of slavery on agriculture; opinions that soils are generally calcareous; calcareous earth a preserver of putrescent animal matter; marling in England; liming; cause of the inefficiency of gypsum as a manure on acid soils; estimates of the cost of labor applied to marling. All these subjects are sufficiently treated in detail for all practical purposes, and yet with a brevity and in a style that admirably adapts the book to the means and capacities of all persons interested in agricultural pursuits. The author does not pretend that his treatise is adapted to all parts of the United States nor even to all parts of Virginia—he modestly confines its application to lower Virginia, or that part of the state below the falls of the several rivers—a range of country with which he has been long practically acquainted, and where he has seen the effects of the principles he lays down. He might, however, safely have extended the application of his principles to all parts of the country (and to all countries too) where lime is not in the soil in sufficient quantity, and where it is obtainable for application at a reasonable price; for there is no principle more clearly established than that lime is an essential ingredient in all good soils.

Mr. Ruffin commenced this Essay with a view to its publication in the American Farmer. The theoretical opinions supported in it, together with his earliest experiments with calcareous manures, were published in the American Farmer in 1821—(see vol. 3, page 313.) No reason, he says, has induced him to retract any of the important positions then assumed; but the many imperfections in that publication, which grew out of his want of experience, made it his duty, at some future time to correct its errors and supply the deficiencies of proof from the fruits of subsequent practice and observation. With these views the present essay was commenced and finished, in 1820, but the work had so grown on his hands, that instead of being of a size suitable for insertion in an agricultural journal, it would have filled a volume, and his unwillingness to assume so conspicuous a position as the publication in that form would have required, and the fear that his work would be more likely to meet with neglect or censure, than applause, induced him to lay it aside. Since then, however, the use of fossil shells has greatly increased, but from a disregard of the theory of the operation of this manure, most persons have used it injudiciously, and have damaged more or less of their lands. Fearful that these disastrous results would destroy the reputation of this invaluable manure, he determined to publish the essay.

The experience of five years since it was written, has not contradicted any of the opinions then advanced, and he has added the reports of his experiments to the present time.

The author has kindly permitted us to make such extracts as we may think proper, and accordingly we have enriched our columns this week, with a pretty copious one, for the double purpose of disseminating the valuable information it contains, and of furnishing a fair specimen of the book in support of the opinion, advanced at the beginning of this article, that it is the best work extant on the subject. We shall not so far interfere with the rights of the publisher as to injure the sale of the book by republishing too much of it; though we believe that if we were to copy the whole it would advance the sale of the book considerably; for all persons when they become acquainted with its merits will be glad to possess it in its present neat and compact form, notwithstanding they might have access to it in the pages of the Farmer.

It is due to ourselves to remark, that Mr. Ruffin had made arrangements for putting an early copy into our hands, but from some cause unknown to us it has never reached us, and we are now indebted for a copy of it to Messrs. McDowell & Son of this city, hence the lateness of the present notice. The book is published by J. W. Campbell, of Petersburg, Va., and for sale at the office of the American Farmer, and at G. McDowell & Son's, Baltimore.

♣A communication on the subject of this book will be found in another page. It reached us just as our last number had gone to press.

Good rhyme but bad reasoning.—The Village Record has the following agricultural distich. We suspect the parties to whose especial use the several grains are appropriated, would not be very scrupulous in making the division, particularly if they came for their shares singly. We doubt whether either of them would even extend to the others the proportion allotted in a similar division of spoil, by the worthy man who undertook to divide four cents amongst three claimants, himself being one, as follows—"there's two for you two, and two for me too."

"We were pleased the other day with the reply of a farmer to our question, how many kernels [of corn] he put in a hill

One for the blackbird, one for the crow,
One for the cut worm, and two to grow."

BLACK HEAD IN WHEAT.

MR. SMITH:

June 12, 1832.

Sir—From the unusual number of black heads in the present growing wheat, will you request some of the experienced farmers, to say in your very useful paper, whether it is what is called the smut, and what is the cause of it, and what effect it will have on the growing wheat, or whether it will have any, and how it may be prevented from injuring seed wheat, when about to be seeded? Your compliance with the above will oblige an inexperienced

FARMER.

[The "black head" is not what is known by the term smut, nor is it considered a very serious evil—it is merely a deduction of the heads affected from the crop.—Ed. Am. Farmer.

(From the Genesee Farmer.)

CULTIVATION OF ASPARAGUS.

When I planted my asparagus bed two years ago this month, (May,) I had a quantity of horn shavings and chips. They were spread over the ground, and my gardener was directed to dig them into the bed prepared for asparagus. He was an Englishman, and the best man I ever saw handle a spade; but he scolded bitterly about it—he declared it would never grow, and no doubt wished in his heart it would prove so. For the first year, no effect at all was observable.—Last year the plants were tolerably thrifty; and for

two weeks past, this spring, I have been daily cutting large quantities of the finest asparagus, half an inch in diameter. These shavings have begun to decompose, and their fertilizing power is enormous. They contain a large quantity of ammonia.

Last spring, a year ago, I spaded up a piece of ground with a good supply of horn shavings on it.—It had been manured with nothing else. I sowed a few seeds of the *Sea Kale*. They came up, but the cut worm made sad work with them, and a part only lived. In autumn I cut some crows and pieces of root from the living ones to fill the missing places, and they are now pushing out with great vigor. I have cut some fine blanched shoots this spring from the large ones. It is equal to asparagus, and affords a pleasant variety for the table. Another spring they will be in perfection.

Last spring I purchased a dozen roots of the *Pie Plant* for two dollars. I divided every root into as many pieces as it had crowns, and planted them. I had forty-four fine plants from them, and furnished my family with all they wanted for tarts and pies, and had plenty to give away besides. These were planted on the same piece of ground with the sea kale, two feet apart, and grew in great luxuriance. Both pie plant and kale were covered in the fall with fresh horse manure. It has not been removed, and their large thrifty crowns are pushing through, rank and green as I ever saw it. All the ground for these plants was tilled only in the usual way of making garden beds.

FOREIGN MARKETS.

LIVERPOOL, May 16th, 1832.

Turpentine is low; 1600 bbls of good quality have been sold at 11s 6d; and for inferior 10s 9d per cwt. was accepted. The sales of Clover Seed amount to 150 casks, to speculators, at 60 to 63s, chiefly at the former price. No sales of Flaxseed to report. Here the season is over. They are still selling a little in some of the Irish ports. Our Corn market yesterday was flat, and lower prices accepted. Little done in Flour either in bond or duty paid.

We had very good reason to look for an improved demand for Cotton in our market last week, but first came reports of the scourge Cholera being in the town, and next the defeat of Ministers on the great question of Reform, and their subsequent resignation. These things combined filled many with alarm, and produced the two-fold effects of causing buyers of cotton to purchase with more caution, and holders to press their stock on the market: the result was a decline of 1-8d per lb. on short stapled cotton generally, and in some instances, to effect sales, we doubt not still greater concessions were made to the buyers.—The sales of the week are as follows:—

190 Sea Island, 103a16d; 10 Stained do, 64; 6250 Upland, 57-8a7 1-8; 980 Orleans, 6a8d, 10 8d; 1360 Tennessee, &c. 5-5-4a6 5-8; 300 Pernambuco 8a5 7-8; 500 Bahia and Macao, 61a7 1-8; 830 Maranhão, 7a8 5-8; 30 West India, 7 1-3a7 1-8; 260 Egyptian, 7 1-8a8 1-8; 170 Surat, 41a5a.

The chief sales made in Upland and Mobile were from 6 3/8 to 6 1/2 and 6 5/8; in Orleans from 6 1/2 to 6 1/3; and in Tennessee, from 6 to 6 1-3. The whole went to the trade except 500 Am. taken by export buyers.

LONDON, May 14.

P. S. The corn market heavy to-day, and prices for middling and inferior Wheat is per qr. lower.

LIVERPOOL, CORN EXCHANGE, May 15.

At to-day's market all descriptions of wheat were fully 1 d. per 70 lbs. lower than on this day se'night, but at this reduction the finer qualities were decidedly more saleable. There was scarcely any alteration in the value of flour. A large business was done in oats, and at prices rather above those obtainable at the close of the week; but 2s. 9 d. may be considered an extreme quotation for Irish. Oatmeal was dull of sale at 24 s. 6 d. to 25 s. per load.

AGRICULTURE.

(From an Essay on Calcareous Manures, by E. Ruffin.)

CALCAREOUS MANURES.

EFFECTS OF CALCAREOUS MANURES, AND DIRECTIONS FOR THEIR MOST PROFITABLE APPLICATION.

Information obtained from statements in detail of agricultural experiments, is far more satisfactory to an inquirer, than a mere report of the general opinions of the experimenter, derived from the results. But however valuable may be this mode of reporting facts, it is necessarily deficient in method, clearness, and conciseness. It may, therefore, be useful to bring together the general results of these experiments in a somewhat digested form, to serve as rules for practice. Some other effects will also be stated, which are equally established by experience, but which did not belong to any accurately observed experiment.

The results that have been reported confirm in almost every particular the chemical powers before attributed to calcareous manures, in the theory of their action. It is admitted that causes and effects were not always proportioned—and that sometimes trivial apparent contradictions were presented. But this is inevitable, even with regard to the best established doctrines, and the most perfect processes in agriculture. There are many practices universally admitted to be beneficial—yet there are none, which are not found sometimes useless, or hurtful, on account of some other attendant circumstance, which was not expected, and perhaps not discovered. Every application of calcareous earth to soil, is a chemical operation on a great scale. Decompositions and new combinations are produced, and in a manner generally conforming to the operator's expectations. But other and unknown agents may sometimes have a share in the process, and thus cause unlooked for results.—Such differences between practice and theory have sometimes occurred in my use of calcareous manures (as may be observed in some of the reported experiments) but they have neither been frequent, uniform, nor important.

The benefit derived from marling will be in proportion to the vegetable or other putrescent matter given to the soil. It is essential that the cultivation should be mild, and no grazing permitted on poor lands.—Wherever farm-yard manure is used, the land should be marled heavily, and if done previously, so much the better. The one manure cannot act by fixing the other, except so far as they are in contact, and both well mixed with the soil.

On galled spots, from which all the soil has been washed, and where no plant can live, the application of marl alone is utterly useless. Putrescent manures alone would there have but little effect, unless in great quantity, and would soon be all lost. But marl and putrescent matter together serve to form a new soil, and thus both are brought into useful action: the marl is made active, and the putrescent manure permanent. But though a fertile soil may thus be created, and fixed durably on galls otherwise irreclaimable, the cost will generally exceed the value of the land recovered, from the great quantity of putrescent matter required. Much of our acid hilly land, has been deprived by washing of a considerable portion of its natural soil, though not yet made entirely barren.—The foregoing remarks equally apply to this kind of land, to the extent that its soil has been carried off.—It will be profitable to apply marl to such land—but its effect will be diminished, in proportion to the previous removal of the soil. Calcareous soils are much less apt to wash than other kinds, from the difference of texture. When a field that has been injured by washing, is marled, within a few years after many of the old gullies will begin to produce vegetation, and show a soil gradually forming from the dead vegetables brought there by wind and rains, although no means should be used to aid this operation.

The effect of marling will be much lessened by the soil being kept under exhausting cultivation. Such were the circumstances under which we may suppose that marl was tried and abandoned many years ago. Supposing that marl was to enrich by direct action, it is most probable that it was applied to some of the poorest and most exhausted land, for the purpose of giving the manure a fair trial. The disappointment of such ill founded expectations, was a sufficient reason for the experiment not being repeated, or being scarcely ever referred to again, except as evidence of the worthlessness of marl. Yet with proper views of the action of this manure, this experiment might have as well proved at first, the early efficacy and value of marl, as it now does its durability.

When acid soils are equally poor, the increase of the first crop from marling will be greater on sandy, than on clay soils; though the latter, by heavier dressings and longer time, may ultimately become the best land. The more acid the growth of any soil is, or would be, if suffered to stand, the more increase of crop may be expected from marl; which is directly the reverse of the effects of putrescent manures.—The increase of the first crop on worn acid soil, I have never known under fifty per cent., and often is as much as one hundred—and the improvement continues to increase slowly under mild tillage. In this, and other general statements of effects, I suppose the land to bear not more than two crops in four years, and not to be subjected to grazing—and that a sufficient cover of marl has been laid on for use, and not enough to cause disease. It is true, that it is difficult, if not impossible, to fix that proper medium, varying as it may on every change of soil, of situation, and of the kind of marl. But whatever error may be made in the proportion of marl applied, let it be on the side of light dressing, (except where putrescent manures are also laid on)—and if less increase of crop is gained to the acre, the cost and labour of marling will be lessened in a greater proportion. If, after tillage has served to mix the marl well with the soil, sorrel should still show to any extent, it will sufficiently indicate that not enough marl had been applied, and that it may be added to, safely and profitably. If the nature of the soil, its condition and treatment, and the strength of the marl, all were known, it would be easy to direct the amount of a suitable dressing; but without knowing these circumstances, it will be safest to give two hundred and fifty or three hundred bushels to the acre of worn acid soils, and at least twice as much to newly cleared, or well manured land. Besides avoiding danger, it is more profitable to marl lightly at first on weak lands. If a farmer can carry out only ten thousand bushels of marl in a year, he will derive more product, and confer a greater amount of improvement, by spreading it over forty acres of the land intended for his next crop, than on twenty, though the increase to the acre, would probably be greatest in the latter case. By the lighter dressing, the whole farm will be marled, and be storing up vegetable matter, in half the time that it could be marled at double the rate.

The greater part of the calcareous earth applied at one time cannot begin to act as manure, before several years have passed, owing to the coarse state of many of the shells, and the want of thoroughly mixing them with the soil. Therefore, if enough marl is applied to obtain its full effect on the first course of crops, there will be too much afterwards.

Perhaps the greatest profit to be derived from marling, though not the most apparent, is on such soils as are full of wasting vegetable matter. Here the effect is mostly preservative, and the benefit may be great, even though the increase of crop may be very inconsiderable. Putrescent manure laid on any acid soil, or the natural vegetable cover of those newly cleared, without marl, would soon be lost, and the crops reduced to one half, or less. But when marl is previously applied, this waste of fertility is prevented; and the estimate of benefit should not only include the actual

increase of crop, caused by marling, but as much more as the amount of the diminution, which would otherwise have followed. Every intended clearing of woodland, and especially of that under a second growth, ought to be marled before cutting down—and it will be still better, if it can be done several years before. If the application is delayed until the new land is brought under cultivation, though much putrescent matter will be saved, still more must be wasted. By using marl some years before obtaining a crop from it, as many more growths of leaves will be converted to useful manure, and fixed in the soil—and the increased fertility will more than compensate for the delay. By such an operation we make a loan to the soil, with a distant time for payment, but an ample security, and at a high rate of compound interest.

Some experienced cultivators have believed that the most profitable way to manage pine old fields, when cleared of their second growth, was to cultivate them every year, until worn out—because, as they said, such land would not last much longer, no matter how mildly treated. This opinion, which seems so absurd—and is opposed to all the received rules for good husbandry, is considerably supported by the properties, which are here ascribed to such soils.—When these lands are first cut down, an immense quantity of vegetable matter is accumulated on the surface—which, notwithstanding its accompanying acid quality, is capable of making two or three crops nearly or quite as good as the land was ever able to bear. But as the soil has no power to retain this vegetable matter, it will begin rapidly to decompose and waste, as soon as exposed to the sun, and will be lost, except so much as is caught while escaping, by the roots of growing crops. The previous application of marl, would make it profitable in these, as well as other cases, to adopt a mild and meliorating course of tillage.

Less improvement will be obtained by marling worn soils of the kind called "free light land," than other acid soils which originally produced much more sparingly. The early productiveness of this kind of soil, and its rapid exhaustion by cultivation, at first view seem to contradict the opinion that durability and the ease of improving by putrescent manures, are proportioned to the natural fertility of the soil. But a full consideration of circumstances will show that no such contradiction exists.

In defining the term *natural fertility*, it was stated that it should not be measured by the earliest products of a new soil, which might be either much reduced, or increased, by temporary causes. The early fertility of free light land is so rapidly destroyed, as to take away all ground for considering it as fixed in, and belonging to the soil. It is like the effect of dung on the same land afterwards, which throws out all its effect in the course of one or two years, and leaves the land as poor as before. But still it needs explanation why so much productiveness can at first be exerted by any acid soil. The cause may be found in the following reasons. These soils, and also their subsoils, are principally composed of coarse sand, which makes them of more open texture than best suits pine, and (when rich enough) more favorable to other trees, the leaves of which have no natural acid, and therefore decompose more readily. As fast as the leaves rot, they are of course exposed to waste—but the rains convey much of their finer parts down into the open soil, where the less degree of heat retards their final decomposition. Still this enriching matter is liable to be further decomposed, and to final waste; but though continually wasting, it is also continually added to by the rotting leaves above. The shelter of the upper coat of unrotted leaves, and the shade of the trees, cause the first as well as the last stage of decomposition to proceed slowly, and to favor the mechanical process of the products being mixed with the soil. But there is no chemical union of the vegetable matter with the soil. When the land is clear

ed, and opened by the plough, the decomposition of all the accumulated vegetable matter is hastened by the increased action of sun and air, and in a short time converts every thing into food for plants. This abundant supply suffices to produce two or three fine crops. But now, the most fruitful source of vegetable matter has been cut off—and the soil is kept so heated (by its open texture) as to be unable to hold enriching matters, even if they were furnished. The land soon becomes poor, and must remain so, as long as these causes operate, even though cultivated under the mildest rotation. When the transient fertility of such a soil is gone, its acid qualities (which were before concealed in some measure by so much enriching matter) become evident. Sorrel and broom grass cover the land; and if allowed to stand, pines will take complete possession, because the poverty of the soil leaves them no rival to contend with.

Marling deepens cultivated sandy soils, even lower than the plough may have penetrated. This was an unexpected result, and when first observed, seemed scarcely credible. But this effect also is a consequence of the power of calcareous earth of fixing manures. As stated in the foregoing paragraph, the soluble and finely divided particles of rotted vegetable matters are carried by the rains below the soil: but as there is no calcareous earth there to fix them, they must again rise in a gaseous form, after their last decomposition, unless previously taken up by growing plants. But after the soil is marled, calcareous as well as putrescent matter is carried down by the rains as far as the soil is open enough for them to pass.—This will always be as deep as the ploughing has been, and in loose earth somewhat deeper—and the chemical union formed between these different substances, serves to fix both, and thus increases the depth of the soil. This effect is very different from the deepening of a soil by letting the plough run into the barren subsoil. If by this mechanical process, a soil of only three inches is increased to five, as much as it gains in depth, it loses in richness. But when a marled soil is deepened gradually, its dark color and apparent richness is increased, as well as its depth. Formerly single horse ploughs were used to break all my acid soils, and even they would often turn up subsoil. The average depth of soil on old land did not exceed three inches, nor two on the newly cleared.—Even before marling was commenced, my ploughing had generally sunk into the subsoil—and since 1825, most of this originally thin soil has required three mules, or two good horses to a plough, to break the necessary depth. The soil is now from five to seven inches deep generally, from the joint operation of marling and deepening the ploughing a little in the beginning of every course of crops.

On acid soils without manure, it is scarcely possible to raise red clover—and even with every and putrescent manure, the crop will be both uncertain and unprofitable. The recommendation of this grass as part of a general system of improvement, by the author of *Arator*, is sufficient to prove that his improvements were made on soils far better than such as are general. After much waste of seed and labor, and years of disappointed efforts, I gave up clover as utterly hopeless. After marling the fields on which raising clover had been vainly attempted, there arose from its scattered and feeble remains, a growth which served to prove that its cultivation would then be safe and profitable. It has since been gradually extended over most of the fields. It will stand well, and maintain a healthy growth on the poorest marled land: but the crop is too scanty for mowing, or perhaps for profit of any kind on most light soils, unless aided by gypsum. Newly cleared lands yield better clover than the old, though the latter may produce as heavy grain crops. The remarkable crops of clover raised on very poor clay soils, after marling, have been already described. This grass, even without gypsum, and still more if aided by that manure, may add greatly to the improving power of marl: but it will do more

harm than service, if we greedily take from the soil too large a share of this supply of putrescent matter. Some other plants less welcome than clover, are still more favored by marling. Greensward, blue grass, wire grass, and partridge pea, will soon extend so as to be not less impediments to tillage, than evidences of an entire change in the character and power of the soil.

With all the increase of products that I have ascribed to marling, the heaviest crops stated may appear inconsiderable to farmers who till soils more favored by nature. Corn yielding twenty-five or thirty bushels to the acre, is doubled by many natural soils in the western states, and ten or twelve bushels of wheat, will still less compare with the product of the best limestone clay land. The cultivators of our poor region, however, know that such products, without any future increase, would be a prodigious addition to their present gains. Still it is doubtful whether these rewards are sufficiently high to tempt many of my countrymen speedily to accept them. The opinions of many farmers have been so long fixed, and their habits are so uniform and unvarying, that it is difficult to excite them to adopt any new plan of improvement, except by promises of profits so great, that an uncommon share of credulity would be necessary to expect their fulfillment. The net profits of marling, if estimated at twenty or even fifty per cent. per annum on the expense, forever—or the assurance by good evidence, of doubling the crops of a farm in twelve years—will scarcely attract the attention of those who would embrace without any scrutiny a plan that promised five times as much. Hall's scheme for cultivating corn was a stimulus exactly suited to their lethargic state: and that impudent impostor found many steady old-fashioned farmers willing to pay for his directions for making two thousand five hundred bushels of corn, with the hand labor of only two men.

THE PERMANENCY OF CALCAREOUS MANURES.

It has been stated that the ground on which an old experiment was made and abandoned as a failure more than fifty years ago, still continues to show the effects of marl. Lord Kames mentions a fact of the continued beneficial effect of an application of calcareous manure, which was known to be one hundred and twenty years old.* Every author who has treated of manures of this nature, attests their long duration: but when they say that they will last twenty years, or even one hundred and twenty years, it amounts to the admission that at some future time the effects of these manures will be lost. This I deny—and from the nature and action of calcareous earth, claim for its effects a duration that will have no end.

If calcareous earth applied as manure is not afterwards combined with some acid in the soil, it must retain its first form, which is as indestructible, and as little liable to be wasted by any cause whatever, as the sand and clay that form the other earthy ingredients of the soil. The only possible vent for its loss, is the very small proportion taken up by the roots of plants, which is so inconsiderable as scarcely to deserve naming.

Clay is a manure for sandy soils, serving to close their too open texture. When so applied, no one can doubt but that this effect of the clay will last as long as its presence. Neither can calcareous earth cease to exert its peculiar powers as a manure, any more than clay can, by the lapse of time, lose its power of making sands more firm and adhesive. Making due allowance for the minute quantity drawn up into growing plants, it is as absurd to assert that the calcareous earth in a soil, whether furnished by nature or not, can be exhausted, as that cultivation can deprive a soil of its sand or clay.

But on my supposition that calcareous earth will change its form by combining with acid in the soil,

it may perhaps be doubted whether it is equally safe from waste under its new form. It must be admitted, that the permanency of this compound cannot be proved by its insolubility, or other properties, because neither the kind nor the nature of the salt itself is yet known. But judging from the force with which good neutral soils resist the exhaustion of their fertility, and their always preserving their peculiar character, it cannot be believed that the calcareous earth once present, was lessened in durability by its chemical change of form. It has been contended that the action of calcareous earth is absolutely necessary to make a poor acid soil fertile: but it does not thence follow that other substances, and particularly this salt of lime, may not serve as well to preserve the fertility bestowed by calcareous earth. All that is required for this purpose, is the power of combining with putrescent matter, and thereby fixing it in the soil: and judging solely from effects, this power seems to be possessed in an eminent degree by this new combination of lime. If this salt is the oxalate of lime, (as there is most reason to believe,) it is insoluble in water, and consequently safe from waste—and the same property belongs to most other combinations of lime with vegetable acid. The acetate of lime is soluble in water, and while alone, might be carried off by rains. But if it combines with putrescent matter, by chemical affinity, its previous solubility will no longer remain. Copras is easily soluble: but when it forms one of the component parts of ink, it can no longer be separately dissolved by water, or taken away from the coloring matter combined with it. In rich limestone soils, and some of our best river lands, in which no calcareous earth remains, we may suppose that its change of form took place centuries ago. Yet however scourged and injured by cultivation, they still show as strongly as ever those qualities which were derived from their former calcareous ingredient. When the dark color of such soils, their power of absorption, and of holding manures, their friability, and their peculiar fitness for clover and certain other plants, are no longer to be distinguished, then, and not before, may the salt of lime be considered as lost to the soil.

If we keep in mind the mode by which calcareous manure acts, its effects may be anticipated for a much longer time than my experience extends. Let us trace the supposed effects, from the causes, on an acid soil, kept under meliorating culture. As soon as applied, the calcareous earth combines with all the acid then present, and to that extent, is changed to the vegetable salt of lime. The remaining calcareous earth continues to take up the after formations of acid, and (together with the salt so produced,) to fix putrescent manures as fast as these substances are presented until all the lime has been combined with acid, and all their product combined with putrescent matter. Both those actions then cease. During all the time necessary for those changes, the soil has been regularly increasing in productiveness; and it may be supposed that before their completion, the product had risen from ten to thirty bushels of corn to the acre. The soil has then become neutral. It can never lose its ability (under the mild rotation supposed,) of producing thirty bushels—but it has no power to rise above that product. Vegetable food continues to form, but is mostly wasted, because the salt of lime is already combined with as much as it can act on; and whatever excess of vegetable matter remains on the soil, is kept useless by acid also newly formed, and left free and noxious, as before the application of calcareous earth. But though this excess of acid may balance and keep useless the excess of vegetable matter, it cannot affect the previously fixed fertility, nor lessen the power of the soil to yield its then maximum product of thirty bushels. In this state of things, sorrel may again begin to grow, and its return may be taken as notice that a new marling is needed, and will afford additional profit, in the same manner as before, by destroying the last formed acid, and fixing the last supply of vegetable matter. Thus perhaps five or

*Gentleman Farmer, page 266, 2d Edin. Ed.

ten bushels more may be added to the previous product, and a power given to the soil gradually to increase as much more, before it will stop again, for similar reasons, at a second maximum product of forty or fifty bushels. I pretend not to fix the time necessary for the completion of one or more of these gradual changes; but as the termination of each, and the consequent additional marling, will add new profits, it ought to be desired by the farmer, instead of his wishing that his first labor of marling each acre, may also be the last required. Every permanent addition of five bushels of corn to the previous average crop, will more than repay the heaviest expenses that have yet been encountered in marling. But whether a second application of marl is made or not, I cannot imagine such a consequence as the actual decrease of the product once obtained. My earliest marled land has been severely cropped, compared to the rotation supposed above, and yet has continued to improve, though at a slow rate. The part first marled in 1818, has since had only four years of rest in fifteen; and has yielded nine crops of grain, one of cotton, and one year clover, twice mowed. This piece, however, besides being sown with gypsum, (with little benefit,) once received a light cover of rotted corn-stalk manure. The balance of the same piece of land was marled for the crop of 1821—has borne the same treatment since, and has had no other manure, except gypsum once, (in 1830,) which acted well. These periods of twelve and fifteen years are very short to serve as grounds to decide on the eternal duration of a manure. But it can scarcely be believed that the effect of any temporary manure, would not have been somewhat abated by such a course of severe tillage. Under milder treatment, there can be no doubt but there would have been much greater improvement.

If subjected to a long course of the most severe cultivation, a soil could not be deprived of its calcareous ingredient whether natural or artificial; but though still calcareous, it would be in the end, reduced to barrenness, by the exhaustion of its vegetable matter. Under the usual system of exhausting cultivation, marl certainly improves the product of acid soils, and may continue to add to the previous amount of crop, for a considerable time; yet the theory of its action instructs us, that the ultimate result of marling under such circumstances, must be the more complete destruction of the land, by enabling it to yield all its vegetable food to growing plants, which would have been prevented by the continuance of its former acid state. An acid soil yielding only five bushels of corn, may contain enough food for plants to bring fifteen bushels—and its production will be raised to that mark, as soon as marling sets free its dormant powers. But a calcareous soil reduced to a product of five bushels, can furnish food for no more, and nothing but an expensive application of putrescent manures, can render it worth the labor of cultivation. Thus it is, that soils, the improvement of which is most hopeless without calcareous manures, will be the most certainly improved with profit by their use.

RUFFIN ON CALCAREOUS MANURE.

MR. SMITH: *Surry County, (Va.) June 9, 1832.*

We have just risen from a perusal of the above work, and although obliged to go over it in haste, we have no hesitation in saying that, by its publication, the author has conferred a truly great benefit upon his native state. It is just such a book as we have long thought wanting in Virginia—especially this section of it; where such a vast quantity of the material in question for improving lands, is to be met with; but which owing either to the prejudices of our farmers, or to what I consider their more besetting sin, a want of energy, has been hitherto very generally neglected.

Mr. Ruffin's Essay, for so it is styled, is far from being one of a visionary character—one made up of vague theory or rambling hypothesis. On the con-

trary it consists for the most part of a detailed account of actual and careful experiments, that he himself has been in the habit of making for some years past, on his lands in Prince George county, and the result of which may, we think, in few words, be said to amount to this—that out of an estate, originally so feeble as to be scarcely worth tending, he has, by the aid of marl, succeeded in manufacturing one that is extremely fertile and valuable. As soon as our leisure permits, we intend giving the work a more attentive reading than we have as yet been enabled to do—and may then take the liberty of submitting through your columns, our ideas of its merits more at large than we now can.

A. B.

(For the American Farmer.)

CHEAT OR CHES.

Dr. HARDEN has discussed the subject of *cheat* with exemplary good-humor, for which I respect him. He and I, from the same premises however, have arrived at very different conclusions; and I hope he will indulge me with the liberty of inquiring fully, but fairly, into the causes which have led us so widely asunder.

Dr. H. says of "the disputants on cheat—both sides are certain they are right—and both sides are as certainly wrong." Now I consider the question at issue to be, *Does wheat ever turn into cheat?* And this question cannot be truly answered both negatively and affirmatively. If it does turn into cheat, we are certainly wrong; if it does not turn into cheat, we are certainly right; and in either case Dr. H. must be wrong.

He further says, "The pages of the American Farmer contain proof positive that injured wheat will and does produce cheat;" and to make the assertion still stronger, he adds "if this be denied, then authority is useless." Dr. H. would oblige me by pointing to such proof; and he would also have the honor of settling this controversy at once. I can assure him, however, that I have seen nothing in the American Farmer, that has carried any conviction to my mind of the truth of such a transformation. I reserve my objections till he designates his proofs.

I suspect the following has too much of a speculative cast to make much impression on his opponents: "These are my opinions," says Dr. H. "*cheat was the original plant; by cultivation it became wheat; and by defective cultivation again becomes ches; the wheat that has turned into cheat, when planted will produce cheat again; and would probably require many years of good management to bring it again into wheat.*" Dr. H. seems to forget that the researches of botanists directly contravene these opinions.

I presume he has no authority for identifying the "tares" mentioned in the parable, with cheat. The Greek word "zizanium" which has been translated "tares" is thus defined in the Lexicon of Schrevelius: "*A kind of weed which grows among corn,—tares, darnel, cockle.*" The text of Scripture, however, seems to refer to some particular and well known weed, which could not be removed without danger of rooting up the wheat; and therefore cannot mean every kind of weed which grows among corn; of course the names which follow the definition are conjectural. This shows that the learned are unable at this day to designate that particular plant, as those named are very different and distinct in their natures. English authors apply the name "tare" to the lentil (*Ervum lens*); and also to the vetch, (*Vicia sativa*) which belongs to the same natural order with the pea; but the "darnel" is a liliuin, a kind of grass; while the "cockle" (*Agrostemma githago*) is nearly allied to the pink. These things do not accord well with Dr. H.'s notion that "the word 'tares' means degenerated wheat."

Referring to the 13th chapter of Matthew, he says, "*The name by which [cheat] was then known, shews that it came from wheat; the parable shews it was*

more abundant in those days than now;" &c. Will Dr. H. oblige us so far as to shew by what chain of logical deduction he arrived at those results? and will he also furnish such authorities as rendered it probable in his mind that in some past ages of the world "cheat ceased to be produced" and consequently became extinct?

Dr. H. has touched too slightly on the subject of the "Indian potato" and the "volunteer rice," to give his readers who have not been familiar with the application of those names, any proper idea of the plants in reference. But if they resemble "potatoes" and "rice," respectively, no more than cheat resembles wheat, they are sufficiently distinct; and quite too remote to be useful even in an analogical investigation of the subject.

I entirely concur with the Editor in his remarks on that article; but I have often read the writings of Dr. H. with pleasure and instruction, and hope he will long continue a correspondent of the American Farmer.

A GLEANER.

CLOVER RICKS.

MR. SMITH:

Woodley, June 12, 1832.

As the season is at hand when the farmers are about to secure their clover crops, I am induced to describe a plan which I have rarely seen practised in building clover ricks. Its merit is not only in saving labor, but in expediting and adding more to its security from high winds or bad stacking. It is simply this: after the bed of rails is laid, a fence rail of not more than ten feet long should be planted every ten feet on each side, beginning at the corners; thus, a rick of thirty feet long, would require four posts on each side, set in the ground eighteen inches or two feet; the rick is then built as rapidly as the hands can fork it up, not allowing time to settle. Let me add, the posts should not be longer than ten feet, else the rick must be carried to an inconvenient height. The rick should be carried about three feet above the posts to prevent their bulging through the top, then drawn in as is usual. I don't pretend to any other merit in giving the foregoing, than of having practised it for some years; and having witnessed so much waste of time (at this period so precious) in the ordinary way of raking and drawing by hand, has induced me to make this communication, which you are at liberty to use, if you think proper.

JACOB HOLLINGSWORTH.

HORTICULTURE.

(From the Library of Useful Knowledge.)

PLANTING.

CHAPTER VIII.

Enumeration of the different species of Forest Trees.

(Continued from page 101.)

Eng. Name. Bot. Name.

NORFOLK ISLAND PINE. ARACARIA.

Diocis Monadelphica. Linn.

MALE FLOWER—ament, imbricated; calyx, a woolly scale; corolla, none; anthers, ten to twelve, in the scale coarctate. FEMALE FLOWER—ament, strobile-shaped; calyx, one scale, spear shaped, leathery; corolla, none; stamina, none; seed, a nut, leathery, wedge-shaped.

Time of sowing the seeds—In pots as soon as obtained. Soil—a sandy loam, in a warm sheltered situation. Use—Ornamental. The Norfolk island pine is a most magnificent tree in its native climate. In England it is properly a conservatory plant. How far it may be capable of being acclimated has not yet been determined. Of the Chilian species of *Aracaria*, planted in the open air, there is a fine specimen in the Royal Gardens, Kew, and one at Lord Grenville's, Dropmore. Governor King states, that he measured some of the former species in Norfolk Isl-

and, which were two hundred and twenty-eight feet in height and eleven in diameter.

The wood is white, close grained, and tough, and it appears to contain no resin. The bark, however, affords a fluid partaking of the properties of that substance. *Lamb. Pin.*

Species for Ornament, &c.

NORFOLK ISLAND PINE.	ARAUCARIA.
Sir Joseph Bank's	<i>imbricata</i> Chili
Brazilian	<i>braziliæna</i> Brazil
Norfolk Island	<i>excelsa</i> Norf. Isl.

Eg. Name.	Bot. Name.
PINE-TREE.	Pinus.

Monoclea Monadelphica. Linn.

MALE FLOWER—*calyx*, four-leaved; *corolla*, none; *stamina*, numerous, *anthers*, naked. **FEMALE FLOWER**—*calyx*, scale of the strobile two-flowered; *corolla*, none; *pistils*, none. **MALE FLOWER**—scales of the *ament*, buckler-shaped; *corolla*, none; *anthers*, adhering to the scales, sitting, or without filaments. **FEMALE FLOWER**—*calyx*, scales of the *ament*, two-flowered; *corolla*, none; *pistil*, none; *seed*, a wing nut.

Time of sowing the seeds—March: the seeds should not be taken out of the cones until the time of sowing arrives. **Soil**—all the fir and pine tribe affect the siliceous, sandy soils, but they will flourish on rocky, and comparatively barren soils, for which they are peculiarly adapted. *The firs, pines, and larches* constitute a perfectly natural genus, or family of trees.—The most obvious or ready character of distinction between them is to be found in the natural arrangement of the leaves. *The firs* have the leaves solitary, or issuing from one scale or sheath on the bark of the branches, over which they are scattered. *The larches* have their leaves in tufts, or little bundles, which are deciduous, and *the pines* have from two to five leaves issuing from one sheath at their base, and have the habit of an evergreen. One property is common to all the species of this genus, that of affording resinous matter, either from the wood, bark, or cones.—The property of reproducing a leading stem or branch when divided, common to all other trees more or less, is wanting in this family of trees; and hence they are called non-reproductive trees. The universal use of the wood renders its properties and comparative value so well known as to relieve the reader from details here on that point. The species which experience hitherto has proved to be most deserving of the attention of the profitable British planter are—

The silver fir, which attains to the height of one hundred and ten feet and upwards, with a proportionate diameter, in this climate. It is very apt, during its first stages of growth, to have its young shoots cut by the spring frosts; and this circumstance, we believe, is the cause of the great neglect of planting this valuable fir. It has already been remarked, that it takes the lead of the larch, Scotch pine, and spruce after the first fifteen years of growth, and therefore its slower progress at first ought not to prevent its being more extensively planted than it has hitherto been in every situation where the fir, pine, or larch are proper to be planted for profit or ornament.

The Balm of Gilead fir in habit and appearance approaches near to the silver fir, but it is evidently inferior in every respect, although a very handsome evergreen tree. These two species are often confounded together. The leaves of the silver fir are arranged nearly on opposite sides of the branch, comb-like. The under sides of the leaves have two white lines running lengthways, which give them a silvery hue. The leaves of the Balm of Gilead are shorter, blunter, and stand nearly upright, in double rows, on the upper side of the branches; while in the silver fir, they are flattened and irregularly single-rowed. According to Michaux, the resin of this tree is collected in America, and sold under the name of *Balm of Gilead*.

The Norfolk spruce is considered to attain from

one hundred and twenty-five to one hundred and fifty feet in height. With the Scotch pine it is said to constitute the greatest proportion of the vast woods of Denmark, Sweden, and Norway. The timber is held to be inferior to that of Scotch pine. The latter is called red deal, and the former white deal. This tree attains to a large size on cold damp clays, situated on declivities. The white, black, and red spruces are of inferior value to the Norway. In America the wood of the black spruce is sawn into boards, and exported to the West Indies and to England; Michaux states that they are sold at one-fourth cheaper than those of the white pine.

The Scotch pine, *Pinus sylvestris*, whether as regards its hardy habits, growing in severe climates and in soils ungenial to almost every other kind of tree, or to its value in the production of useful timber, must stand in the first rank of forest-trees. The great elevation in which this tree will grow was mentioned before. A large exportation of the timber takes place from Riga, Memel, and Dantzic to England.—In the former places, according to Mr. Lambert, it is called red deal, and in London yellow deal. According to respectable authority, this species furnishes four-fifths of the tar consumed in the dockyards of Europe.

The pinaster, having an inferior timber, claims but little notice from the profitable planter; however, it will grow in situations exposed to the sea air, and is an ornamental tree.

The stone pine is more celebrated for its seed, which is eaten as a fruit, than for the value of its timber. In Italy and the south of France the seed is served up in the dessert; and according to Sir George Staunton it is known and relished by the Chinese.—It is a handsome tree.

The hooked pine, *Pinus uncinata*, is remarkable for the very high elevation of the site on which it will grow. These other pines belonging to this group, enumerated below, are all more or less interesting and deserving of notice; but as the facts relative to the comparative value of their timber, are not yet sufficiently numerous to lead to satisfactory conclusions, we must necessarily omit any further mention of them here. The frankincense, Virginian, or pitch, swamp, and pond pines are all natives of North America.—The most valuable of these in their native climate appears to be the swamp, or long-leaved pine, as Michaux terms it. He remarks, that its mean height is from sixty to seventy feet, with a diameter of fifteen or eighteen inches for three-fourths of its length.—The timber of the swamp pine is extensively used in the Floridas, Georgia, and the Carolinas. It has not yet exhibited any merits as a forest-tree in the climate of Britain.

The Weymouth pine is of very quick growth in sheltered situations, and moderately moist sandy soils; but the timber is of a very inferior quality. It is extensively used in America, under the name of white pine; it is considered to have little strength, and affording but a feeble hold to nails. It is stated to reach the height of one hundred and fifty feet, and five in diameter. It was cultivated in 1705, by the Duchess of Beaufort.

The Siberian stone or Cembra pine, is a highly ornamental species in England; but its merits for timber have not yet been satisfactorily determined. It abounds in the Tyrol, where the wood is preferred to common deal for flooring, vainscoting, and other kinds of joiner's work. It appears to have been confounded with the *Pinus pygmaea*, but the species are very distinct.

The *Pinus Lambertiana* was introduced in 1827, by Mr. Douglas, collector to the Horticultural Society of London. In its native soil, the north west coast of America, it appears to be a tree of gigantic growth, and of great longevity.

We come now to consider the last group or section of the pine tribe, or those with leaves disposed in tufts or little bundles surrounding a bud. The first and

most valuable of these is the common larch. Scarcely any species of forest-trees has received so much attention and favor from planters, in a given series of years, as this tree; and our space will not allow of the simple mention of the names of the numerous eminent individuals, who have put its real and assumed merits to the test of trial, much less enable us to detail the various facts and opinions brought forward on the subject. Its merits are stated to have been known so early as the time of Julius Cæsar, who calls it *lig-nan igni impenetrabile*. It is a native of the south of Europe and of Siberia, inhabiting the sides of the mountains, in the local hollows of which it attains to the largest dimensions. The first mention of its culture in England is given in Parkinson's *Paradisus* in 1629; and Evelyn, in 1664, mentions a larch tree of good stature at Chelmsford, in Essex. It further appears to have been introduced into Scotland in 1734 by Lord Kames. But the merit of making known its valuable properties as a timber tree for the climate of Britain, appears to be due to the Duke of Athol, who planted it at Dunkeld in 1741. The rapid growth of these and of other trees of the same species planted successively by that nobleman, and the valuable properties of the timber of such as were felled, realized the high character previously bestowed upon it by foreign and British authors, who were followed by others such as Dr. Anderson, Watson; Bishop of Landaff, Marshall, Professor Martyn, Nicol, Ponty, Sang, and Monteith, all confirming and further extolling the valuable properties of the tree, which has induced a somewhat general belief, that the larch is the most valuable of forest-trees, even taking precedence of the oak. It is no wonder, therefore, that the larch has been planted, and largely, in almost every kind of soil; and as it is not exempted from the influence of that natural law to which every other species of tree is subject, namely, that which restricts to peculiar soils the perfect development of all the parts of their structure and successful progress of growth to the state of full maturity or perfection—in many instances plantations of it have failed in making a return of the expected advantages, inferior even to the Scotch pine, not to mention the oak, elm, and ash, of greater value on a similar soil. On soils of the nature alluded to, namely, wet clays, springy gravels, and wherever stagnant moisture could not escape, the larch, after attaining to eighteen or twenty-five years' growth, gives evidence of premature decay, or a suspension of healthy progress of growth, and when felled exhibits unsound timber, commencing in the centre of the leading roots, and penetrating upwards into the body of the tree. The instances are numerous which have come under our own observation of the fact now stated; and we mention it, not with the view to detract from its intrinsic value, or to discourage its propagation, but as a caution against the indiscriminate planting of it in soils without exception or without due examination. On declivities, and even in hollows, where clays abound, but where there is also a drainage for the superfluous water, the larch is found to attain to great perfection. The pruning of larch and other non-reproductive trees was mentioned heretofore.

The comparative value of the red and black species of larch has not yet been sufficiently proved; so far, however, as the trials have proceeded, the opinion is greatly in favor of the common or white larch.

The Cedar of Lebanon, *Pinus cedrus*, so celebrated by the ancients for the valuable properties of its wood, such as continuing sound for a thousand or two thousand years, yielding an oil famous for preserving books and writings, destroying noxious insects, &c. has not been proved in the climate of Britain to afford timber of a valuable quality; it is also more difficult to propagate and of slower growth in its first stages from seed than the firs, pines, and larches to which it is allied; its culture, therefore, appears to have been confined in this country to parks and lawns, and doubtless there is no forest-tree that, when placed singly,

or in small groups, confers such an air or impression of ancient grandeur and dignity upon a mansion and its grounds as a full grown Cedar of Lebanon. It is a native of the coldest parts of Mount Libanus, where now, according to the accounts of travellers, it is found in small numbers. Rauwolf, in 1575, saw only twenty-four sound trees and two old decayed ones.—Maandrell, who visited the supposed site of this most ancient forest in 1696, could reckon only sixteen large trees, but many small ones. The largest measured twelve yards six inches in girth and thirty-seven yards in the spread of its branches. Professor Martyn remarks that Solomon's four score thousand hewers must have considerably thinned the forest of Libanus. The same excellent author further observes, that we have now probably more cedars in England than are left on Mount Libanus—a fact which, when conjoined with that regarding the present state of the natural forests of America, mentioned before, should afford matter for deep and serious reflection to those who have it in their power to plant land, comparatively waste or unproductive, in a judicious manner, but who hesitate thus to benefit their posterity and their country, from the fallacious impression that the natural forests of America and of the north of Europe, unrenovated, as they continue to be from the neglect of planting, are inexhaustible, and will continue to supply the wants of the civil and naval architectural sciences and arts of this country.

Forest or Timber Species.

First—Those with leaves solitary, scattered round the branches.

FIR-TREE.	PINUS.	Native of Ft.
Silver	<i>picca</i>	Switz. 30—80
Balm of Gilead	<i>balsanica</i>	Virginia 50
Hemlock spruce	<i>canadensis</i>	N. Am. 10—30
Norway	<i>abies</i>	N. Europe 100
White "	<i>alba</i>	N. Am. 50—80
Black "	<i>nigra</i>	— 45—50
Red "	<i>rubra</i>	— 30—50
Dwarf	<i>clabrasiliiana</i>	—
Oriental	<i>orientalis</i>	Levant —
Bushy	<i>dumosa</i>	Nepal —
Yew-leaved	<i>taxifolia</i>	Columbia —
Purple-coned	<i>spectabilis</i>	Nepal —
Fischer's	<i>pichla</i>	Altay —
Douglas's	<i>Douglasii</i>	N. Amer. —
Double balsam	<i>Fraseri</i>	—

Second—Those with leaves in pairs, or two proceeding from the base of a sheath.

PINE-TREE.	PINUS.	Scot. 30—100
Scotch	<i>sylvestris</i>	S. Europe 60
Cluster	<i>pinaster</i>	—
Stone	<i>picea</i>	— 40

Ornamental, or whose value as Timber-trees has not yet been ascertained in England.

Upright-coned	<i>pmitillo</i>	Carniola —
Nodding-coned	<i>mitis</i>	—
Pungent	<i>pinus</i>	N. Am. 40—60
Hudson's Bay	<i>banksiana</i>	— 60
Sea-side	<i>maritima</i>	S. Europe 40
Aleppo	<i>halapensis</i>	Aleppo 20—30
Jersey	<i>virginiana</i>	N. Am. 40—50
American pitch-tree	<i>resinosa</i>	— 50
Corsican	<i>laricio</i>	Corsica —
Hooked	<i>uncinata</i>	Pirenees —
Pallas'	<i>Pall-issiana</i>	Crimea —
Yellow	<i>lutea</i>	N. Amer. —
Heavy-wooded	<i>ponderosa</i>	N. W. Am. 50
Gerard's	<i>Gerardi</i>	Nepal —
Crooked	<i>adunca</i>	—
Roman	<i>Romana</i>	Italy —
Siberian	<i>Sibirica</i>	Siberia —

Third—Those with leaves varying from two to three.

Two and three-leaved *variabilis* N. Am. 40—60

Fourth—Those with leaves in threes.
Frankincense *teda* N. Amer. 30

Virginian, or Pitch-pine	<i>rigida</i>	— 80
Swamp	<i>palustris</i>	N. Am. 60—70
Pond, or fox-tail	<i>serotina</i>	—
Fifth—Those with leaves in fives.		
Weymouth	<i>stribus</i>	N. Amer. 100
Siberian stone	<i>cembra</i> , or	Sib. } 50—60
	<i>apherouski</i>	Swit
Lambert's	<i>lambertiana</i>	N. W. Am. —
Pigny	<i>pugnax</i>	Siberia —
Bhotan	<i>excella</i>	Nepal —

Leaves numerous in little bundles from the bottom or base of a sheath.

Timber or Forest Species.

PINE-TREE.	PINUS.	Native of Ft.
Com. white larch	<i>lirix</i>	Switz. 50—80
Intermediate	<i>intermedia</i>	Altay —
Dahurian	<i>dahurica</i>	Dahuria —

Species for Ornament, &c.

Black larch	<i>pendula</i>	N. Amer. 30
Red larch	<i>nicrocarpa</i>	— 80
Cedar of Lebanon	<i>c'drus</i>	Levant —
Indian cedar	<i>deodora</i>	Nepal —

(From Notices of Brazil, by the Rev. R. Walsh.)

BRAZILIAN FRUIT.

Among the exotic fruits cultivated in Brazil is that of the quince. It is abundant in every part of the country, and attains a prodigious size.

They sell in the shops a nut called mindoubi, (arachis hypogea,) which grows at the root of a small plant. They extract from it a great quantity of oil, but is also used for food, and when parched is very good. Negro women are constantly shelling and parching it in the street.

The seed of a native shrub, called fedagosa, (*cassia occidentalis*.) is frequently roasted, and used for coffee, and by some more highly prized. It grows in great profusion round Rio, adorning the sands with its yellow blossoms.

Fruit is abundant and delicious; pine-apples are in immense quantities. On the sea shore, near the mouth of the harbor, is a long sandy district, entirely covered with pine apple plants, and here I rode one day nearly three miles through a pine apple garden. It is indigenous to Brazil, where there are many species growing on the banks; they are called, and cried about the streets, by the name of ananas. I have often bought them very fine for a vintem, about three half pence a piece.

Next in excellence is the manga. This is a fruit larger than an apple, always green; when ripe, it exudes a clear juice, as strong and pungent as spirits of turpentine; of which it never loses the flavor.—When ripe, the pulp is a bright orange, but the stone is covered with long tough fibres, like coarse hair, which penetrate the pulp, and render it difficult to detach it. I have often regretted that from this cause I never could eat more than half the fruit.

The yambus, or rose-apple, is a very beautiful fruit, exactly resembling an apple in size, shape, and color. It is, however, hollow inside, containing two nuts, which rattle when the fruit is shaken. Its flesh is the consistence of an apple, but more insipid.

The berries of three kinds of myrtles are used as esculents. The first, called gomixam, (*myrtus lucida*.) is a dark purple fruit, the size of a small plum, exuding a purple juice. It is highly wholesome and aromatic, and the most grateful of the native fruits; it makes a delightful conserve. The next, called pitanga; (*myrtus pil niga*.) is about the same size, but of a bright red color, distinctly ribbed, on the surface. It is harsh and austere, but makes an excellent conserve, and a very agreeable ardent spirit is distilled from it. The third is called cambuin, (*myrtus busianica*, v. r.) and covers the sandy shore between Bota Fogo and the Sagar-loaf, where the people who sell

it, come in crowds to gather it from the myrtle bushes. The fruit is dark brown.

The custard apple, (*annona squamosa*.) is also much esteemed as a native fruit. It has the appearance of a large fir cone; the pulp is exactly of the consistence and taste of custard. A new species, called cherimolia, (*annona tri-etal.*) has been lately introduced from Peru and Chili, which produces an exquisite fruit.

The mamoon, or marrow-apple, (*carica papaya*.) is nearly as large as a pine-apple. It grows in clusters on the summit of a tree, with a stem like a cabbage-stalk, and very large angular leaves. Almost every yard in Rio has a mamoonero planted in it, and it is one of the characteristic traits of the country.—The fruit has a rich, foetid taste, of an animal flavor, bearing a strong resemblance to marrow, from which it is justly named.

The acajou, (*anacardium acajou*.) is a singular fruit. It is a large fleshy appendage, the size of a baking apple, on the top of which a single seed stands as long as a Windsor bean, and of the same shape, attached by the tip; you would naturally suppose the large fruit was intended also by nature as a matrix of seed, but it contains only a fleshy pulp, very juicy, cool and refreshing, but rather austere. The bean, when held to the candle, emits an inflammable vapor, which ignites, with an explosion, and causes a little fire-work, for the amusement of people after dinner.

The fruit of several species of passion flower is used under the general name of maracuja, particularly that of the beautiful scarlet flower, which adorns our hot-houses, but it is the commonest plant in the hedges of Brazil, (*passiflora alata*.) the maracuja is held in high respect by the Brazilians, for the same reason that we call it passion flower, because its parts of fructification have a near resemblance to many emblems connected with the cross. It is described by a poet as having a round form like a diadem, surrounded with points like thorns; a pillar in the midst and distinct emblems of the holy wounds and the sacred cross, the nails and the cruel lance; and its white color, spotted with violet, records the sacred blood.

I should mention, that the banana is still more sacred and universal here, than at Madeira. The people also entertain the same superstition of the impropriety of cutting it across, lest they should sever a sacred emblem; and further, they believe as Du Tertre says, it was the fruit of Adam in Paradise, who saw in it the future sacred cross. It is the common breakfast of the people, who do not cut, but dip the fruit in farinha-meal, and eat it as we do a radish and salt.

(From the Genesee Farmer.)

BUGS IN PEAS.

East Darrington, Yates Co., May 14, 1832.

MR. EDITOR—I would mention that I have been in the habit of raising several acres of peas yearly for some years past. I selected my seed in the fall, and put it up in barrels. The spring following, after my ground was fitted, on examining my seed peas, I found that quite a portion had heat, moulded and spoiled, and the balance appeared to be much inhabited with bugs, it being all I had of the last season's crop. But on reflection, I went to the rack-barn and found ten bushels of old peas that had layed over one year, in consequence of their being buggy. I had bought new seed and let them lay. I examined the peas, and found them to a pea light shells, and the bugs gone or decayed. I had little faith in their sprouting, but sowed the ten bushels on about three acres, beside the others. They came up well, and produced a fine crop perfectly clear of bugs, while the others along side were very buggy. I sowed the same kind last season, and raised probably three hundred bushels; this spring they appear to be a little buggy. I am calculating to keep over a few bushels to change them again next season. This proves a certain cure with me. Respectfully, yours, JOHN SPICER.

(From the Barnstable Journal.)

CULTIVATION OF CRANBERRY.

The Cranberry is a native of New Holland, Europe and America; it grows spontaneously in the flat sandy, and in some of the mossy bogs in this country. At Sandy neck, on the north side of Barnstable harbor, are quite extensive tracts covered with the wiry vines of the Cranberry, and are estimated to produce in favorable seasons one thousand bushels of fruit. The Cranberry grows most luxuriantly in soils composed almost wholly of beach sand, where water, at all seasons of the year, can be obtained a few inches below the surface. It can be profitably cultivated. A particular account of the method pursued by Mr. Henry Hall, of Dennis, was sometime since given in this paper. He has been engaged in the cultivation of this fruit upwards of twenty years, and his grounds have averaged about seventy bushels per acre annually. Mr. Hall practised taking the plants from their natural situations in autumn, with balls of earth about their roots, and setting them three or four feet distant from each other. In the course of a few years, they spread out and cover the whole surface of the ground, requiring no other care thereafter, except keeping the ground so well drained as to prevent water from standing over the vines. The cranberry may also be propagated from the seed. It should be planted in autumn, as soon as the fruit is ripe, and a year afterwards the young plants may be transplanted to the situations where it is intended for them to grow.—There are many situations in this county, and we doubt not in every part of England, well adapted to the profitable cultivation of the cranberry. Grounds that are overgrown with fine rushes or moss, may be rendered suitable by spreading over a thick dressing of beach sand previously to transplanting the vines.

RURAL ECONOMY.

FEEDING CATTLE.

It is stated by M. Dubuc, president of the Agricultural Society at Rouen, that three measures of oats, pounded or broken up and moistened, are equivalent as aliment, to four measures given in the grain.

It is observed also that, four parts of different kinds of forage, coarsely chopped, and deprived of dust, will go as far as five parts of the same forage given entire and separately.

There exists in Paris, an establishment where mixtures of food are prepared on this principle, for horses. It is that of M. Payen. The kinds most generally mixed are clover and lucerne. They are then cut up, so that the horses are obliged to chew and masticate them in the most perfect manner.

The mixture of vegetables which is considered as the most suitable for draught horses, is composed of equal parts of cut straw, clover and common hay.—Barley and oats, coarsely ground and mixed, answer a better purpose than when eaten separately.

M. Dubuc visited this establishment, and found that the horses which worked the machinery, are fed in this manner, and that they looked well and are vigorous, though kept at work 10 or 12 hours a day. He cites also the teams of M. Sevin, mail contractor at Orleans, whose horses were fed on cut straw, mixed with one-fifth of clover and lucerne, and sometimes a little hay. They were fat, strong and substantial. They give them also, barley or oats crushed and moistened. Care must be taken to place this food in deep mangers, so that it may not be wasted. Oats are frequently mixed with the last portions given them prior to their being harnessed.

M. Dubuc was assured by both these proprietors, that there was a saving of one-fifth at least, by this method, and that, besides, the horses were in a better condition, and endured more labor than those fed on common, unprepared materials.—*Bib. Univ. for June, 1831.*

MISCELLANEOUS.

METEOROLOGICAL JOURNAL.

For 5th mo. (May,) 1832, kept at Clermont Academy, near Philadelphia, by S. S. GRISCOM.

Day of the month.	Therm. at sunrise.	Clouds at sunrise.	Wind at sunrise.	Remarks, a.m.	Max of Therm.	Clouds, 3, p.m.	Wind, 3, p.m.	Remarks, p.m.
1 15	MCS.	sw1	placasant		67	MS.	NW2	56° clear and fine at 9 pm
2 43	CS.	NNE4			63	CS.	W2	sw2 in eve
3 43	C&CS.	sw1.	cms.		64	C&CS.	SE3	
4 49	C.	NE1.	fine 75 ms: sw5. at m		76	MS.	SW6	63 mes. SE4. 1. r;
5 62	MCS.	NW1	r.		60	MS.	NE3	
6 50	MS.	NE1	fine		64	MS.	NE3	
7 45	C.	NE2			63	C.	SE4	59° 9 pm SE3. cs.
8 49	CMS.	sw5			76	MS,CMS	SW4	r; all night
9 39	CMS.	sw1	r;		74	MS.	NW2	60° NW1 very fine evening
10 53	O.	NE4			69	O.	NE5	SE4. evening
11 43	O.	NE3	frost		66	C.	NE4	50 cs. E2. at 9 pm
12 42	O.	E2	frost 60 mes: sw1 at 9 am		70	C.	SW3	SE1. in evening
13 50	C.	SW2	very fine c; and m, sw3.		80	C.	SW3	63 cs: SE1 at 9 pm
14 60	CMS.	sw1	cms. r.		80	MCS.	SW4	68 ms sw3
15 57	CMS.	sw4	r; 79 mes. sw3 at m 65° pm		70	MCS.	W1	r. at 1 pm 60 s, NW2 at 9 pm
16 56	O.	sw1	m; sw5.		77	M.	SW5	nimbus in N. r.
17 54	O.	NE2	c.		77	C.	SW3	nimbus in w. l.—I. t. r. in eve
18 60	CMS.	W1.	r, 78 c&m, w1. at m		77	M.N.	W2	r; t. l.—64 at 9 pm
19 59	CMS.	NE2	82 at m E3.		72	N.	SW2.	r; t. l: r! all night
20 56	CMS.	NNW2	r;		59	MCS.	NNW2	r;—56 NW4. at 9 pm
21 45	O.	NW5			67	MS.	NW6	54 NW1. O. at 9 pm
22 46	O.	NW2	mc:		69	O.	NW4	c; in eve
23 50	CMS	SE6.	mc:		58	CS.	SE6	r;—48 r; NE5 all night
24 47	CMS.	NE6.	r: fires 47 r: NE6 at m.		45	CMS.	N16	r;—40 r: NE5. at 9 pm
25 42	MS.	NW2	do		63	MS.	NNW3.	51 NW4 at 9 pm
26 42	CMS.	NW1	smoky 65 mes. r, sw3 at m		60	CMS.	NE5	r!—50 NE5. r. at 9
27 42	MS.	N,NW5	frost		61	MS.	NW4	
28 42	MS.	NNW3	do fires yet		69	MS.	NW2	
29 50	MS.	NW2			79	C, MS.	SW1	
30 58	MCS.	SW3	r: NW7		59	N in W	NW7	r.—n w r, 48 ms;c, NNW4. at 9
31 48	MCS.	NNE5	r;		61	MS.	NNW8.	59 CMS. NNE7. at 9 aurora

SUMMARY.

Mean at sunrise, 49 90.
 Mean at mid-day, 67.77.
 Mean for the month, 58 84.
 Minimum 40 on eve of 24th.
 Maximum 82 at 11 A.M. on 19th.
 Coldest day, 46 on 24th.
 Warmest day, 70° on 14th.
 Rain on 16 days.
 Electrical phenomena on 4 days.
 Days of fair weather, 15.
 Days of clouds and storms, 10.
 A very wet, cold and unpleasant month; and very unfavorable to vegetation.
 Wind west of meridian 19 days.
 Wind east of meridian, 12 days.
 Frost on 6 mornings.

In every instance in this month rain has followed the cirrus cloud within 24 hours after its disappearance.

MEMORANDA.

1st. Evening very clear; the stars as bright as the clearest winter night. Thermometer 50°.
 4th. Tree frog, (*rana arborea*.) singing near the window from a tree. SW5. 76°.
 7th. In a ride of ninety miles through the counties of Gloucester and Salem, in New Jersey, Newcastle, in Delaware, and Chester, Delaware, and Philadelphia, in Pennsylvania, the wheat, though much injured by the frosts of winter, appears to be fast recovering, and promises a good crop. Apple orchards generally have abundance of bloom. Peaches do not promise well. May reed birds in Jersey on 5th; at Clermont on 18th. Bull frogs first heard on 12th.

15. After a fine rain status creeping below the tree tops.

19th. The last week has been one of very favorable temperature and moisture for rapid vegetation.—The woods and shrubs appear in their permanent summer dress, except a few of the most tender, whose foliage looks tender and pale.

21st. A fine clear morning, though cool—the ground very wet. Many seeds have perished in the ground, especially lima beans, and some fine peas and melons from Cuba. The papers state that “a tremendous and destructive storm of hail passed over the country a few miles north of Trenton, N. J.—windows, poultry, &c. were extensively destroyed.” It has rained 9 days out of 11 since 14th. Agriculture suspended in consequence, and much Indian corn destroyed or greatly injured.

28th. Fires yet necessary. Considerable frosts for several mornings a few miles north. American poplar in full bloom.

30. After a copious rain from SW the wind changed to NW, blowing hard, and dispersing the clouds and rain between the ms, which were left; the sky appeared entirely suffused with a very rare milky cirrus, lower in the atmosphere than usual. This phenomenon has been very remarkable all the spring, and causes the white appearance of the sun, and the feebleness of his rays.

31st, at 9 P. M. The sky entirely overcast except in the northern horizon a little clear place rising a few degrees, showed a bright aurora; wind at the time NNE7, thermometer 59°. Accounts of snow storms extending through New England and New York.—Snow 6 inches deep on the Catskill mountains last week—hence our cold weather.

Prices Current in New York, June 16.

Beeswax, yellow 18 a 20. Cotton, New Orleans .104 a .113; Upland, .84 a .11; Alabama, .9 a .114. Cotton Bagging, Hemp, yd. 14 1/2; Flax 13 a 14; Flax, American, 7 a 8. Flaxseed, 7 bush, clean —; rough —; Flour, N. York, bbl. 6.25 a —; Canal, 6.50 a 6.68; Balt. Hwd-st. 6.50 a —; Rh'd. city mills — a —; country, 6.25 a —; Alexand'a, 6.37 a 6.50; Fredericksburg 6.12 a —; Petersg. — a —; Rye Flour, 4.75 a —; Indian Meal, per bbl. 3.50 a — per hhd; 16.00 a —; Grain, Wheat, North, — a —; Vir. 1.15 a 1.28; Rye, North, 75 a 85; Corn, Vel. Nor. — a 75; Barley, — a —; Oats, Sts. and North, .47 a 5. Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess 9.50 a 10.75; prime 5.37 a 6.00 cargo — a —; Lard, 7 1/2 a 9 1/4; Pork, mess, bbl. 12.75 a 14.00; prime 10.25 a 10.81.

DURHAM SHORT HORN BULL CALF.

A full blood improved Durham Short Horn Bull Calf, by Gloucester, out of a first rate thorough bred Cow, four months old, well formed, of good size and points, for sale by the Editor of the American Farmer. Price, if immediately taken, \$150. Apply to I. I. Hitchcock, office of the American Farmer.

VALUABLE COW AND CALF FOR SALE.

A COW, six years old, with a young BULL CALF, of the celebrated Teeswater and Holderness Breeds, will sell cheap if immediate application be made. The ancestors of these animals, (a full bred Holderness Bull, and two full bred Teeswater Heifers) were brought to this country by Richard Parkinson, of Doncaster, (England) and their progeny have been kept unmixed to the present time. This cross is said to be the origin of the Short horn Durham Cattle. The breeder of the Cow and Calf, (in whose possession the breed has been since their arrival from England), prefers this race, as milkers, to any other. The Calf is a fine formed animal two months old. Apply to I. I. Hitchcock at the Office of the American Farmer.

June 1.

TURNIP SEEDS.

As the season for sowing Turnips is at hand, we offer for sale at the American Farmer Office and Seed Store, the following choice kinds of Seeds, which may be relied on as fresh and genuine, viz.

EARLY DUTCH,	WHITE FLAT
EARLY WHITE DUTCH,	RED TOP,
GARDEN STONE,	YELLOW FLAT,
YELLOW ABERDEEN,	RUTA BAGA,
LARGE NORFOLK FIELD,	YELLOW BULLOCK.

Also the following choice PUMPKIN SEEDS: Connecticut Field, or Northern; Mammoth; Penosyl vania Field, and Cushaw

AGRICULTURAL IMPLEMENTS AND FRESH GARDEN SEEDS.

The subscriber offers at his store and manufactory, No. 36 Pratt street, between Hanover and Charles streets, a great variety of AGRICULTURAL IMPLEMENTS, consisting of his Patent Cylindrical STRAW CUTTERS; Gideon Davis' Patent PLOUGHS, with east and wrought shares, and Castings for the same to supply those worn out; Substratum and Shovel Ploughs; Harrows; Robin's Patent Corn Planter; Corn Cultivators, Corn Shellers; Wheat Fans; Wire Saws, Hay and Manure Forks, by the single or dozen; Grass and Grain Seythes; Grain Cradles; Hay Rakes, Mattocks; Picks and Grubbing Hoes; Weeding and Hilling Hoes. A variety of Garden and Horticultural TOOLS, &c. &c. Those articles manufactured by himself special pains have been taken to procure the best materials and to have the work executed in the best manner.

Also, a great variety of GARDEN SEEDS, both European and American, and all of last year's growth, embracing a great variety of Beans, Peas, Cabages, Radishes, late Peas, Bene Seed, &c. &c. And the following FIELD SEEDS, viz: Tall Meadow Oat Grass; Lucerne, of Prime Quality; Mangle Wurtzel, Ruta Baga; Large Yellow Pumpkin, by the quart or bushel; and White Italian Mulberry SEED, of prime quality.

J. S. EASTMAN.

BULL CALF FOR SALE.

An extraordinary Fine Bull Calf, which weighed at six days old one hundred and thirty pounds, — grand sire Col. Powell's Bull Farmer; grandam a Holstein Cow, which gave Thirty Quarts of milk per day for many weeks after having had a Calf, and an average of Twenty Quarts of milk per day the year round; sire a half blood Durham. The Calf is handsomely marked, and can be delivered in Philadelphia at six weeks old. Price \$30. Apply if by letter (post paid) to Samuel Williams, Hiltion Farm, Front st. road, near Philadelphia.

AGRICULTURAL BOOKS

For sale at the American Farmer Office and Seed Store.

THE AMERICAN GARDENER'S CALENDAR, adapted to the climates and seasons of the United States, containing a complete account of all the work necessary to be done in the Kitchen-garden, Fruit-garden, Orchard, Vineyard, Nursery, Pleasure-ground, Flower-garden, Green-house, Hot-house, and Forcing frames, for every month in the year, with ample practical directions for performing the same. Also, general as well as minute instructions for laying out, or erecting each and every of the above departments according to modern taste and the most approved plans; the ornamental planting of pleasure-grounds, in the ancient and modern style; the cultivation of thorn-quick and other plants suitable for live hedges, with the best methods of making them, &c. To which are annexed; catalogues of Kitchen-garden plants and herbs; aromatic pot and sweet herbs; medicinal plants; and the most important grasses, &c. used in rural economy, with the soil best adapted to their cultivation; together with a copious index to the body of the work. By Bernard McMahon. Eighth edition improved. Price, &c. \$4.50.

AN INTRODUCTION TO THE NATURAL SYSTEM OF BOTANY, or a systematic view of the organization, natural affinities, and geographical distribution of the whole vegetable kingdom: together with the uses of the most important species in medicine, the arts, and rural or domestic economy. By John Lindley, F. R. S., L. S., G. S. Member of the Imperial Academy Naturæ Curiosorum; of the Botanical Society of Katisbon; of the Physiographical Society of Lund; of the Horticultural Society of Berlin; Honorary member of the Lyceum of Natural History of New York, &c. &c. and Professor of Botany in the University of London. First American edition, with an Appendix, by John Torrey, M. D. Professor of Chemistry and Botany in the College of Physicians and Surgeons in the city of New York, Member of the Wernerian Society of Edinburgh, Fellow of the Mineralogical Society of Jena, Member of the Physiographical Society of Lund, Sweden, &c. &c. Price, \$2.75.



CORN CULTIVATORS, HARVEST TOOLS, &c.

The subscribers have prepared a good stock of CORN CULTIVATORS, both wrought and east times; GRAIN CRADLES, with best quality warranted Seythes attached; GRASS SCYTHES and SNEADS ready hung or separate; Steel Hay, Grain, Manure FORKS and improved Wheat Fans. They are also now manufacturing and preparing to furnish Lane's Patent THRASHING MACHINE at \$75. Horse Powers \$75, which, together with their usual stock of Ploughs and other Agricultural Implements, are offered for sale on accommodating terms.

Also a supply of SWEET POTATO ROOTS, for planting. SINCLAIR & MOORE, Grant street, near Pratt street wharf.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—Fresh ground Howard street flour was selling yesterday at \$6.75 from wagons; sales of flour on hand were made at 6.50 and 6.62 1/2. The apparent discrepancy in these prices will be understood when it is stated, that at this season dealers are anxious to sell the old stock, and consequently are selling it at prices below what they are paying for fresh ground flour. Corn has receded considerably in consequence of the increased supply.

TORRACO.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable forscars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a —. Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.70. The inspections of the week comprise 735 hhd. Md.; 74 hhd. Ohio; and 16 hds. Ken.—total 825 hds.

Flour—best white wheat family, \$6.75 a 7.25; super Howard-street, 6.50 a 6.62 1/2; city mills, — a 6.50 Susq. 6.25 a —; CORN MEAL, bbl. 3.50; GRAIN, best red wheat, 1.50 a —; white do 1.35; Susq. — a 1.35 —Corn, white, 58 a 60; yellow 55 a 60; RYE, 90 a — OATS, 45 a — BEANS, 75 a 80—PEAS, 65 a 70—CLOVER-SEED — a — TIMOTHY, — a — ORCHARD GRASS — a — Tall Meadow Oat Grass — a — Herd's, 75 a 87 1/2—Lucerne — a 37 1/2 lb. BARLEY, FLAXSEED 1.50 a 1.62—COTTON, Va. 5c 104—Lon. 9 a 13—Alab. 8 a. 11 1/2—Tenn. 8 a 10; N. Car. 8 a 10—Upland 8 a 11 1/2—WHISKEY, hds. 1st p. 28 1/2 —; in hbls. 30 a 31 — Wool, Washed, Prime or Saxony Fleece 50 a 60; American Full Blood, 45 a 50; three quarters do 40 a 45; half do 35 a 40; quarter do 30 a 35; common 25 a 30. Unwashed, Prime or Saxony Fleece, 30 a 35; American Full Blood, 27 a 30; three quarters do 25 a 27; half do 22 a 25; quarter do 20 a 22; common, 17 a 20 HEMP, Russia, ton, \$225 a 230; Country, dew-rotted, — a 7c lb. water-rotted, 7 1/2 a 8c.—Feathers, 36 1/2 a 37 1/2—Plaster Paris, per ton, 4.37 1/2 a —, ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.75 a 6.50—Oak wood, 3.25 a 3.50—Hickory, 4.50 a —.

CONTENTS OF THIS NUMBER.

Editorial; Ruffin on Calcareous Manures; Good Rhyme but Bad Reasoning—Black Head in Wheat—Cultivation of Asparagus—Foreign Markets—On Calcareous Manures, by Edmund Ruffin; Effects of Calcareous Manures and Directions for their most Profitable Application; Permanency of Calcareous Manures—Remarks on Ruffin's Essay, its Particular Aptitude to Virginia—Letter from A. Gleaner in Reply to Dr. Harden's Communication on Cheat in No. 9 of the Current Volume—Building Clover Ricks with a view to Economy and Security—Planting; Enumeration of the Different Species of Forest Trees, concluded—Description of several kinds of Brazilian Fruit, by the Rev. H. Walsh—Remedy for Bugs in Peas—Cultivation of Cranberries—Feeding Cattle in Paris and other parts of France—Samuel S. Griscom's Meteorological Journal for May—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, basement of Barnum's City hotel,) by I. IRVINE HITCHCOCK, on the following

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged by the year, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special orders, and then not till the end of the year. If his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (except more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

AGT—All Postmasters are requested to act as agents for the Farmer; they are authorized to retain \$1 for each new subscriber, and 10 per cent. on all other collections.

Printed by John D. Tey, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, JUNE 29, 1832.

CHEAT.—We are much indebted to Mr. Craven for his excellent communication on the subject of cheat, which we publish in the present number of the Farmer. Mr. Craven, we may observe, is one of the oldest and best farmers in Albemarle County, Virginia, and his statements of facts are entirely to be relied on. We should not deem it necessary to say a word in reference to his character, were the circulation of his communication confined to the part of the country where he is known. As to the subject he discusses, we do think he has removed all grounds for doubt, and furnished testimony in favor of his opinion that is irrefutable. We beg those who still believe in the degeneracy of wheat to cheat, to give Mr. Craven's communication a careful reading; let them dwell upon the facts, that his father and himself have kept their fields clear of cheat, by carefully destroying it whenever it made its appearance, and thus securing clean seed; that he exterminated the cheat by cutting it before it perfected its seed, and that he satisfactorily accounted for the existence of cheat in fields where clean rye was sown, by its having been carried out in the manure a year before. If the facts stated by Mr. Craven do not satisfy all persons on this subject, we shall be obliged to give it up as hopeless.

OLD WHEAT.—We expect in the course of the present year to be able to lay before our readers one of the most interesting facts on the subject of wheat that has ever been published. At the present time we can only say generally, that there is now growing in France a patch of wheat, the seed of which was upwards of two thousand years old. It was obtained, we believe, directly from one who was an inhabitant of Egypt some where about the year 418 before Christ, by some gentleman in France! In other words, it was taken from a mummy. At this time we only know that the wheat was in every particular the same as that of the present time, and that it was planted, and was growing finely at the last accounts we had of it. We have made arrangements to obtain all the particulars in relation to it, and shall immediately lay them before our readers. This is a most interesting circumstance, and adds one of the most important items to the history of agriculture ever before recorded. It proves conclusively, that wheat is not a factitious vegetable, as has been so often and so authoritatively asserted; and further, that it was not originally an inferior grain, and improved by cultivation to its present quality; but, on the contrary, that it has been for at least two thousand two hundred and fifty years exactly the same as it is now. We could say a great deal on this interesting subject, but forbear until we have the detailed statement from Europe. It completely annihilates, for instance, one of the principal grounds of the theory of the degeneracy of wheat to cheat; which is that wheat was cheat originally, but by cultivation has been made wheat, and hence, it is said, it is liable to return to cheat again.

IMPROVED COWS.—The Hagerstown Torch Light informs us that Mr. Martin Newcomer of that town, has a Shorthorn Durham cow, from which he obtains 26 quarts of milk per day, and between 13 and 14 pounds of butter per week.

Now what is the value of that cow? If a common cow, that gives ten to twelve quarts of common milk per day, be worth twenty dollars; what is a cow worth that gives twenty-six quarts per day of milk equal to the cream of the common cow? We must not seek an answer in the single rule of three—if twelve quarts give twenty dollars what will twenty-six give—by no means. First, one quart of the Durham cow's

milk is equal to three pints of that of the common cow. Consequently 26 quarts of her milk is equal to 39. Secondly, it would require three common cows to furnish the same value in butter and milk; of course the saving of the first cost and keeping of two common cows is to be added to the produce of the Durham. Say the interest of the cost of two cows, and the actual cost of keeping them is worth six quarts of milk—this added to 39 makes 45 quarts per day.—Thirdly, the calf of a common cow will only sell for 3 to 4 dollars—that of the Durham will sell for at least one hundred dollars, and if 6 to 12 months old is worth from \$150 to \$250. Take it at a hundred dollars at four weeks old, and deduct the value of the common calf, and we have twenty-seven cents a day to be added to the produce of the Durham, equal to seven quarts of milk—which, added to 45, makes the comparative value of the Durham and common cows as 52 to 12, for common dairy purposes.

THE DEVON COW.—We very recently knew a Devon cow that had furnished a pretty large family with all the butter, cream and milk they wanted, for twelve years, and in the mean time furnished calves that sold for twelve hundred dollars. She is dead now—and even at her death, we believe, she added fifty to a hundred dollars to the above sum, in the shape of a thirteenth calf. She was one of the gentlest of her kind, and we are sure that the death of no being less than human, could have caused more sincere regret to her immediate friends, “and a large circle of acquaintance.” It was not altogether the profitability of this cow that gained her the esteem of all who became acquainted with her. There was a certain dignity of demeanor, placidity of countenance, and friendly sociability of deportment, that commanded the respect, won the esteem, and secured the friendship of all. She was the “observed of all observers,” no matter how numerous her companions might be; and, even to the day of her death, though time had laid a heavy load upon her back, even her daughters, unrivalled in personal attractions by all else, were unable to deprive her of the compliment that every beholder bestowed—“what cow is that?”

FINE FRUIT.—We have again to acknowledge the receipt from Mr. McKim, of this city, of a specimen of his gooseberries. They measure three inches and thirteen-sixteenths in circumference, and four inches and a quarter lengthwise. They are the largest we have seen this year. There were some larger ones not yet ripe. Mr. McKim also presented us with a small branch, twelve inches long, of the Siberian, or waxen cherry tree, containing seventy-seven perfect cherries. It is a most delicious variety, and the most prolific of any we ever saw. These were also accompanied by a specimen of fine red ox-heart cherries.

Mr. McKim certainly carries off the palm in gooseberries—if any other gentleman has produced finer ones we should be glad to be made acquainted with them.

(From the Richmond Whig.)

WHEAT.

One of the largest and finest crops on James river, amounting to full ten thousand bushels, was contracted for yesterday by one of our city millers, at one dollar and twenty-five cents, to be delivered as fast as it can be got out, a good portion of it in July. This sale may be considered as establishing the opening price in this market. A small or inferior crop would not command so high a price.

Our city millers will hardly begin grinding till late in July. Their flour being for foreign markets, it is no object for them to begin till they have a sufficient stock of wheat to supply a whole cargo at once, and to keep on without letting the stones get cold.

Some of the country millers will commence grinding earlier, and as they will have the home market to themselves, it will be to their advantage to get their flour to market as early as possible.

Farmers will bear in mind, that in consequence of the law restricting millers to the use of one brand, our city millers will not purchase inferior wheat at any price. Last season there was not a single barrel of fine flour made at the Gallego mills, and will not be again so long as that law remains in force.

Country Millers; too, should be informed, that the Richmond Inspector intends to put the standard of Country Flour up as near to City Mills as it will admit of. The law of the session before last, restricting millers to one brand, has had the effect of restricting City Millers to the purchase of only the tip top Wheat, while of course a greater proportion of inferior than before the passage of that law, has been ground in the country. The consequence has been, to make a greater difference in the quality and price of City Mills and Country Flour than theretofore.—Last season not a barrel of Gallego Flour sold for less than six dollars, and all bought from the store—while, at the same time, country flour sold as low as four dollars and thirty-seven and a half cents—the greatest difference ever known. Why do not the Farmers urge the repeal of a law so injurious to them?

MADDER.

Mr. FESSENDEN: Bridgewater, Oneida Co., N. Y.

I shall wish, at some future period to make some remarks through the medium of your paper, on the cultivation of madder, having been engaged two years past in raising this article. It requiring three years to come to maturity, I have not dug any as yet; but a neighbor of mine has raised it several years, and has taken up in two years fifteen hundred pounds each year, to the acre. He informs me that he has never labored a day on it without earning three dollars per day. The seed he sells at present for twenty dollars per acre of two thousand four hundred hills. I know that it is a perfectly hardy plant and the cultivation simple; it requires rich soil. I forbear making further observations at this time, fearing it might be a common article of cultivation in your state.

Yours, RUSSEL BRONSON.

To make the bark grow over wounds and diseased places on forest or fruit trees, without fail and with speed.—When a branch is cut off or a tree is otherwise wounded, make the place smooth with a sharp knife; and if the tree be cankered, either cut away the part affected or scrape it out until you come to the sound wood. In all cases make the surface as smooth as possible; then put half a pound of tallow into two pounds of tar, and warm it over a fire till the tallow is just melted in the tar, when one ounce of saltpetre should be added and the whole stirred well together. The composition must then be laid on the parts that you want to heal, and I have found it by long experience to be an effectual cure, and superior by far to any thing yet practised.

FOREIGN MARKETS.

LIVERPOOL COTTON MARKET.

Wednesday, May 16.—Our market continues dull, and the business very limited—there is plenty of Cotton offering in all descriptions, but we cannot quote any alteration in prices.

LIVERPOOL, CORN EXCHANGE, May 15.

Since this day week the supplies of Wheat and Oats have been very considerable. At this day's market there was a thin attendance, and sales only to a moderate extent were effected; of Wheat at a decline of 1d on the finest, and 2d per 70 lbs on all other kinds, and 6d per sack on Flour.

AGRICULTURE.

(From the New England Farmer.)

MASSACHUSETTS AGRICULTURAL SOCIETY.

To the Trustees of the Massachusetts Agricultural Society.

GENTLEMEN,—Situated at a distance from any considerable market town, it would be absurd in me to think of entering into competition in the aggregate amount of crops, with farmers in the vicinity of the city, where manure is attainable to any desired extent. On the supposition, that the management of farms is judged in reference to local advantages and inconveniences, my hope is founded of sustaining a claim to a premium. There have never been any very great improvements made on my farm in any one year. The object has been yearly to add something more in earthy and vegetable substances to the fields, than was taken from them in the removal of crops. To give a just idea of improvements made, a brief history of the operations may be necessary.

My first purchase of land was in 1802, fifteen acres; the greater part of which was in a very rough state, and as much of it as had been tilled reduced by severe cropping. The rocks were removed to inclose the lots, and the bushes subdued with the plough, as fast as necessary means could be obtained for accomplishing those objects; the progress was not rapid in the beginning, because, being entirely destitute of capital, I was obliged, in seaman's phrase, to "work my passage."

When the fields were inclosed with walls and the bushes subdued, attention was directed to the plats which had been tilled almost to exhaustion. And the principal means of renewing them within my power, was the incorporation of earths of different qualities. Cold and tenacious soils were dressed with silicious earth and other materials that tended to open and warm them. Sandy soils were dressed with clay, swamp mud, and alluvions in which the sand formed the least considerable part. This course, in seven years, gave ten tons of English hay where less than two were obtained before, and about double the quantity of grain on the acre.

In 1817, another lot of sixteen acres, a large portion of it in similar state with the first, was purchased and managed in the same way. About the same time were purchased seven acres of fresh meadow; on which no other improvements have been made than clearing away bushes, tunnelling and cutting ditches in such directions as would irrigate the whole meadow. Another small lot was inclosed from a pasture, in 1820, and has since been cultivated as English meadow and tillage. Four acres of the above lots are light sandy soils; six acres hazel loam, suitable for grain or grass; five acres dark friable soil; fifteen acres argillaceous; and ten acres of irrigated fresh meadow. Seven acres were planted with Indian corn the present year—three acres of loam and four acres of sandy soil. On one acre of the loam about six cords of barn manure were spread and ploughed in; on another acre, where in other years meadow mud had been applied, six casks of lime were spread; on the other fields, which produced rye the preceding year, there was no application. The corn was planted in drills; this method has been in practice on the farm more than twenty years, and is in my judgment preferable to any other. The corn was harvested between 20th September and 20th October. Weight of the whole crop 22,381 pounds, 298 31-75 bushels. The same field the preceding year, produced one hundred and twenty bushels of rye. The present year there were only about two acres in rye, and the produce was twenty five bushels.

There are nine acres in tillage, alternately planted with corn and rye, excepting once in five or six years each field is planted with potatoes, beans, or some

other vegetable considered favorable as a change from the ordinary course. The stubble of rye is ploughed in, immediately after the removal of the crop, and some kind of seed applied to produce herbage to be ploughed in as green dressing. Potatoes this year were planted only on the borders of corn-fields, under trees, and in other situations where not much produce could be expected—eighty bushels were gathered.—From two hundred to three hundred has been the average crop in the last four years. No other roots are cultivated except in the kitchen garden. Thirty-two acres are mowed, twenty of which have been ploughed and will produce good English hay in common seasons with liberal manuring; but a succession of wet seasons has introduced on a part of it so much wild grass, that the hay is not now suitable for the market, though good stock hay. There are ten acres of irrigated land, as above mentioned, and two acres of fresh meadow over which water does not often pass. The hay was located before the offer of premium was published, in such manner that it is impossible for me to ascertain with accuracy the quantity. Some of it was placed in barns with old hay, and some of it sold in the fields. The crop of hay has varied very little for four years, yet supposed to have gradually increased. In 1827, the whole crop was measured in the mow in September, after it was thoroughly settled. Four cords of English hay were considered equal to a ton, and five cords of fresh. According to that measurement, there were thirty-three and three quarters tons of first quality, or good English hay; ten tons of second quality; and fourteen and two-fifths tons fresh hay. Five acres then mowed are now in tillage. From two to three tons of second crop are annually cut, in situations where it is not convenient for cattle to feed.

Compost manure, made with reference to the quality of the soil where it is to be applied, is every year spread on the mowing land. Sand is made a principal ingredient of compost for clayey soils, and swamp mud or clay for loose soils. From three to five hundred loads, forty bushels in the load, are made in a year and applied chiefly in autumn, not so much for choice as necessity, there being no other season of sufficient leisure to accomplish the work. In laying down tilled land to grass, I choose to sow the seed about the last week in August and put no grain with it; but any time in the month of September will do better than either of the spring months; and if sown with winter rye, it will do better than with spring grain. The clayey soils which are not suitable for grain, I sometimes turn over with the plough immediately after the grass is cut, roll down the furrows, and put on a dressing of manure and seed again. In this course, cultivated grass is renewed without the loss of any crop. I use chiefly heavy grass seed, and put one-fourth of a bushel on an acre.

I have forty acres of pasture of a light soil, and in the possession of other owners, it was alternately tilled and pastured in so quick succession, that only very small crops of corn or rye can now be obtained. The number of acres discouraged me from attempting to renew it in my usual way of mixing soils; and therefore a plan is formed to renew it in the operations of nature. Last spring, a field of between two and three acres was fenced, ploughed, and sowed with the seed of the yellow locust tree. The seed came up well, and the most thrifty of the young trees are now three and a half feet high. If the worms should not oppose me, there will probably be a very flourishing grove, which in a few years will effectually recruit the soil. In this connexion, it may not be amiss to mention, that I have this fall sowed five acres of common land with the seed of white pine, and am now planting several acres with acorns, which it is intended to protect against cattle with a fence.

The number of apple trees on the farm is eighty, most of them situated in two small orchards. There are some scattered trees, and a few cultivated in the garden. Nearly half the trees have been engrafted,

chiefly with winter fruit. This year there are no apples. The last year, probably, there were a hundred bushels of winter apples and enough beside to make some six or eight barrels of cider. The principal attention given trees, after they have attained the bearing state and need little or no more pruning, is to scrape off the rough bark and moss early every spring, and wash the bodies of the trees and the large limbs with very strong soap-suds, or a solution of potash.

The barns have been built in succession, and some of those first erected are of very inconvenient form for the general purposes of a farmer. They were built when there was no expectation of needing much room for the storage of hay and grain, and some other uses of them were in contemplation. The first barn is twenty feet wide and thirty feet in length; the second, twenty and forty; the third, thirty feet square, built for the exclusive purpose of storing hay; the fourth, twenty six and thirty; and the fifth, thirty feet square. Under a portion of two of the barns, openings are left to shelter the cattle from the severity of the weather. The barns were located with a view to convenience and facility in getting the hay and manuring the fields. There are four barn-yards, three of them are built square, and hallowed a little in the middle for the retention of the manure; the fourth is of irregular shape, to give the cattle access to a spring of water. Into the yards, such kinds of earth are carted, as are considered best adapted to the fields where the manure is to be applied. With the earth every sort of vegetable substance is incorporated, which can be easily obtained. These, with the droppings of the cattle, make rich beds of compost every year.

The usual stock on the farm consists of one horse, six oxen, three cows, and eight or ten young creatures. The horse and oxen not pastured much on the farm. From about the middle of July to the first of September this year, five cows were milked, two of them heifers of only two years old. The cows were under the care of a tenant. Cheese making was not commenced early in the season, and continued only to 30th September. Milk was daily taken for the use of the family, in which there are several young children. The return of cheese made was four hundred and sixty-four pounds. From the 20th September to 5th of November, butter was made with four cows and the milk given to swine. The return of butter was seventy pounds. The cows have something of mixed blood, but are chiefly of native breed and were raised on the farm. Three swine only are kept, fed with the refuse of the house, boiled potatoes, and corn. The annual quantity of pork is about nine hundred pounds.

My cattle in winter are fed chiefly on hay; milch cows have some meal and vegetables; and oxen intended for beef the succeeding fall are fed with some grain the last of winter. Calves to be raised are suffered to suck one half the milk of the cows ten weeks, then put in a good pasture till October, when they are put with fattening cattle, where they soon learn to eat whatever is given out, and become very vigorous to endure the inclemencies of winter.

About two tons of beef are made in a year, on grass, green corn stalks, and refuse hay. Oxen and cows are generally turned off to beef for some other reason than the particular age; and at what age it would be most profitable to turn off those of excellent qualities, is a question which has never employed much of my attention. The principal product of my farm is hay, of which ten or fifteen tons are annually put up for sale; the residue is sufficient to winter twenty-five head of cattle; but the pasture not being equal to the summering of nearly that number, a part of the stock wintered is often sold in the spring. One man and a lad sixteen years old labor constantly on the farm; in addition to which, day laborers are frequently employed. The present year, twenty acres of the mowing land were put on a share, and forty days' labor

hired. One gallon of rum was used by some elderly laborers, who have worked on the farm more than twenty years in the hay season; and the owner supposed the cause of temperance would be injured rather than promoted, in withholding from these men their accustomed portion, who never in their lives, to his knowledge, drank to intoxication.

Respectfully submitted, MORRILL ALLEN.

Plymouth, ss. Pembroke, Nov. 21, 1831.—Personally appeared before me, the above named Morrill Allen, and made oath that the above statement by him subscribed, was true, according to his best knowledge and belief.

KILBORN WHITMAN, Justice of Peace.

Lot 1, fifteen acres, part in a rough state, part too much cropped.

Lot 2, sixteen acres, much the same as the above.

Lot 3, seven acres, meadow, fresh meadow.

Lot 4, small lot from a pasture.

Four acres are light sandy soil; six acres hard loam, suitable for grain and grass; five, a dark friable soil; fifteen, argillaceous; ten, irrigated fresh meadow.

This year, three acres of loam and four acres of sandy soil were planted with corn.

On one acre of loamy land, six cords of manure were ploughed in. On one acre of sandy, six casks lime; in other years, meadow mud had been put in.

On the other fields which produced rye the preceding year, no manure.

Corn planted in drills, gathered 298 11-75 bushels 42-47.

Nine acres in tillage, corn and rye alternately, excepting once in five or six years a crop of potatoes or beans.

The stubble of rye is cleared in immediately after taking off the crop, and some kind of seed is applied to produce herbage.

From 200 to 300 bushels potatoes, his average crop for three or four years past.

Mows thirty two acres, twenty of which has been ploughed, yields good English hay.

Ten acres of irrigated meadow, and two acres of fresh meadow.

1827. 333 tons of hay, first quality.

10 do, second quality.

14 2-6 fresh hay.

58

Sand principal ingredient for clayey, and swamp mud in sandy loose soil, 300 to 500 loads, in autumn.

CHEAT.

*Penpark, Albemarle Co., Va.,
June 13th, 1832.*

MR. SMITH:

I should have answered your letter sooner, but have for some time past intended to reply to some of your numerous correspondents on the subject of cheat or chess. My experience in the farming line has been about forty-five years; my first acquaintance with cheat was of very early date, when but a boy. My father's custom was to have all the rye, cockle, and cheat, gleaned from that part of his wheat-field intended for seed. This was probably one of the first pieces of labor I was called on to assist in, and therefore made the more lasting impression on my mind; and this practice he continued to his death, and having something of the Dutch blood in me, I thought of course whatever my father did was right; and never having heard him complain of the cheat increasing on him, I of course believed that it was produced from its own seed, and that by keeping the seed wheat clean it would not increase. I have been so fully convinced of this, that on a farm which produced say two or three thousand bushels of wheat per year, I have passed some years without seeing scarcely one stalk of cheat. But for the practice that we have gotten into of importing our seed from the north, we might still have

been without this now great pest; for myself, I know that my first cheat was brought in some of the red chaff bearded wheat that I had brought from Baltimore some 25 years ago. I also heard one of my neighbors, who was complaining of the cheat, say that he had none of it until he sent to Loudoun county for some purple straw wheat, and that it had stocked his farm with cheat. From the oft repeated, if not the current opinion, that cheat was degenerated wheat, either from bad husbandry, bad seed, from improper grazing, or some other cause, I had almost become a convert from my original faith, from some two or three circumstances that happened under my own observation, which really staggered my faith, and I was halting between two opinions for some time. The first was a patch of cheat that appeared in my meadow where wheat had never been sown, and which spread so rapidly that it was likely to overrun the whole meadow, and in some places had almost destroyed the timothy. This led me to examine for the first cause, or from what it had originated, which led to two discoveries; the first was, that I had been in the constant practice of making a cap or hood for the hay stacks out of rye straw; those bundles of straw had been thrown on this very ground where the cheat first made its appearance; the hoods were also thrown on this ground, after the hay was hauled away, and suffered there to rot, giving it a double chance to deposit every seed of cheat that might be in the rye straw, of which they were made. The meadow had a considerable stream running through it for near a mile, and on all the low and sunken places on the creek, the cheat began to make its appearance. I have accounted for this satisfactorily to my mind as to the deposit made at the hay stacks. There has long been a wagon camping-ground at the head of the meadow, the cheat was deposited in the horse feed and manure, and washed down the stream by the floods. Those patches had so increased in the course of three years as to injure the hay very much; for, by the time the timothy and herds grass were fit to cut, the cheat would be entirely dry and almost rotten, at least sufficiently so to deposit all its seed for the next crop. I determined on cutting those patches as soon as the cheat heads made their appearance, and by this means alone I have almost destroyed it. Now, if wheat, timothy, or herds grass turned to cheat, I could not have destroyed it by mowing the cheat alone before the seed ripened. I will now state another fact which occurred, and put all my wits to the test to solve the mystery, which if I had not succeeded in doing, at least to my satisfaction, would not only have proven that wheat and timothy would turn to cheat, but rye also. Some four or five years back, I had sowed a very rich tobacco lot in rye; the seed rye I was certain had no cheat in it, and to my great surprise, when the rye began to head, it was almost half cheat; and although the rye was a very heavy crop, not less than twenty-five bushels to the acre, the cheat was equally good and matured well. It will be proper to observe, that this lot was grazed through the winter and spring by my sheep; but I knew that nothing passing through a sheep vegetates, and, therefore, I had to look for some other cause. Fortunately I was able to find one perfectly satisfactory to me, and thus to re-establish my faith, which I admit had again become shaken. The facts were these: about half the lot had been used as a cowpen, as a preparation for tobacco; the other half had been manured heavily with barn yard manure, not well rotted. From this manure the cheat was produced; for to the very line where the cowpen came there was no cheat. Now the only doubt with me is, how the seed of the cheat remained in the ground during a summer's culture in tobacco; yet this must have been the case, else why not have had the cheat in that part of the rye which had been used as a cowpen? It is well known to all farmers that red clover seed will lay in the ground for years, and then vegetate, if exposed to the surface; this must have

been the case with the seed of the cheat, which had been turned under so deep by the following up the ground with a three horse plough.

The reason why so many farmers think that where the wheat has been destroyed, either by the fly or the winter, is turned to cheat, is obvious enough. On close examination, the wheat under a good preparation is the hardiest, or thriestest plant, and when not molested by the fly or some other enemy, will generally occupy the whole of the surface, leaving no space for the cheat to spread and thrive; but when from the fly, or any other cause, the wheat gets destroyed, it leaves the cheat plants that are in the ground the full possession to spread and thrive at will. So also with respect to cockle. I have seen wheat-fields sowed, that grew off handsomely for some time, without any appearance of cockle being in the wheat; but as soon as it was attacked by the fly the wheat gives way, the cheat and cockle spread out, and take possession of the land. For a while both the cheat and cockle will thrive pretty well without cultivation—the wheat plant will very seldom mature as a volunteer, or single bunch. With respect to the grazing of wheat turning it to cheat, it cannot be so; I have been in the constant practice of grazing my wheat and sometimes with great advantage to the crop, and never, in one single instance have I been able to detect a change of wheat to cheat; but that they are separate and distinct plants I have no more doubt than I have an existence; all the care and pains that can be bestowed on the cheat plant will never bring it to wheat, nor will all the neglect and bad farming you may bestow on the wheat turn it to cheat; for while care and attention to our seed of all kinds will have the greatest effect on the quality of the seed, yet the kind will remain the same. I venture to affirm that no state of culture, either good or bad, will change the kind, and for this I have the very best authority. If our worthy friend, Dr. Harden, had pursued his inquiry a little farther, while he was on the subject of the parable of the sower, (which evidence certainly operates against him) he might have found proof much more positive, where God himself says, in the 1st chapter of Genesis, 11th and 12th verses: "And God said, let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit, after his kind, whose seed is in itself upon the earth, and it was so. And the earth brought forth grass, and the herb yielding seed, after his kind; and the tree yielding fruit, whose seed was in itself, after his kind: and God saw that it was good."

I must also think our worthy doctor knows much more about the cultivation of cotton than he does of wheat, from his own statement. The advice he has given about thin sowing, I think is calculated to do great injury. From his statement I should judge, that both the climate and soil were unfavorable to the wheat crop, and that neither the drilling nor thin sowing will succeed, as he advises. Having been raised in the Northern States, where they sow thinner than we do in Albemarle, and inheriting enough of the Dutch blood to be at least partial to the practice that my father had pursued, which was to sow from three pecks to one bushel to the acre, I persisted in this thin sowing for some years, until I found my neighbors' wheat, who sowed thicker, always came more to maturity than mine did; and that it was not near so liable to the rust. I commenced sowing thicker by degrees, and on very strong land at this time I seldom sow less than two bushels to the acre. My average yield is never less than ten bushels to one; and in one instance, I made from one and a half bushels of seed sown on less than one acre of land forty-two bushels, weighing sixty-three pounds to the bushel. I have gone into this statement to show the error of thin sowing. I have frequently drilled small parcels of choice wheat, that I wished to propagate, but have never, in one instance, made good grain; and while I admit, that one bushel or five pecks of good seed, may yield as much some seasons as more seed, yet it

is safer to sow thicker,—the fly in all cases destroys a part, and frequently one-half.

If these hurried remarks will throw any new light on the long agitated question of cheat, they are at your service. With much respect, I am, sir, your o'bt servant,
JOHN H. CRAVEN.

CHEAT AND SPELT.

MR. SMITH: Prince George Co., Va. June 6, 1832.

Notwithstanding all the facts and arguments that have been brought forward in the controversy on the origin of cheat, that has lately occupied your columns, it is highly probable that the writers on both sides, and their readers, without an exception, retain the same opinions as at first. We are always too partial to the reasons that support our side of any question, to allow fair play to those on the other; and thence it follows, that when the reasons are strong, yet vulnerable on both sides, that no amount of authority, or extension of argument, can convert partizans, or establish the truth. Believing it, therefore, utterly useless, I shall abstain from adducing the reasons that have satisfied my mind, that cheat is not the product of degenerated or damaged wheat. But however ineffectual argument may be, a few experiments, made and observed carefully, will serve to decide this interesting and important controversy; and I invite your correspondents, and others who feel interested in the decision, to aid in this mode of obtaining it. Perhaps more satisfactory experiments, than the one I shall propose, may be thought of by others; but this alone will suffice to prove, that wheat may be changed to cheat, if indeed that opinion is correct.

Select a soil supposed to be the most favorable to the production of cheat. This I consider to be on some sandy slope, which is subject to be too wet in winter and spring. Let a small space, (now clear of growing cheat) be broken up and stirred at different times, from August to October, so as to cause every seed in the soil to sprout, and then to be destroyed. At the time of sowing wheat, mark off a square of ten or twelve feet accurately into checks of a certain size, (say eight inches), and at every crossing of the lines plant three grains of imperfect wheat. The grains should be dropped together in a hole made by thrusting a small stick to the proper depth. In the spring, let the plants be cut or grazed once or oftener, but not so late as to prevent the formation of seed stalks. All the causes that are severally supposed to produce cheat would here operate; and if any stalks of cheat should be produced, their situation and number would clearly show whether they sprang from the grains of wheat or not.

Being entirely ignorant of botany, I am not sure that all of us refer to the same plant when we speak of cheat. That name here is sometimes made to include the two very different plants, which will accompany this letter; though one of them (marked No. 2) is now generally distinguished by the name of spelt. The latter is by far the worst pest of the two—and though now less abundant, is, like the cheat, (No. 1.) increasing in spite of all the means yet used for its destruction—and both together threaten the most serious injury to the wheat grower. The general opinion is, that both these plants are produced from wheat, by the operation of some of the various causes that have been urged by your correspondents who believe in such transformations. But no reasons have been offered, why wheat should sometimes change to cheat, and sometimes to spelt—nor why neither should have been sufficiently plenty twenty or twenty-five years ago, to be a noticeable evil in our crops, though our cultivation then was even more slovenly than it is at this time. The grains of cheat being considerably smaller, and specifically lighter than wheat, may be mostly got out of a crop by good farming and losing much good wheat with it. But the grains of spelt are so nearly of the same size and

weight with those of wheat, that it is impossible to separate them by either the fan or the screen.

Whenever our negligence has permitted cheat and spelt to be scattered over our farms, it seems almost impossible to stop their growth, even to those farmers who suppose that they never are produced, except from parent plants of the same kind. The purchase of pure seed wheat (which is already extremely difficult) does not remedy the evil, as the seeds of both cheat and spelt will often remain uninjured a year, or perhaps much longer, without germinating, when buried deep by the plough. But with those who believe that wheat changes to cheat and spelt, it is obviously impossible to get rid of the evil; and that opinion is calculated to repress every effort for that purpose. Hence the necessity of deciding by fair and careful experiments, whether these pests are legitimate or bastard vegetable products. E. R.

REMARKS ON THE ABOVE, BY THE EDITOR.

The specimens enclosed in the above communication were, a head of cheat, (*Bromus secalinus*), and a head of darnel, (*Lolium temulentum*.) The latter is the first specimen we have seen of the plant, and were not before aware of its having made its way across the Atlantic. It is the plant which the English farmers suppose originates from wheat. We have also found a specimen of *Bromus mollis*, soft brome grass, which some suppose originates from timothy. It resembles cheat very much, except that it is more delicate, with smaller heads and seeds. It is somewhat curious that this timothy cheat, as it is called, (soft brome grass) was found in a wheat field, where there never had been a spear of timothy.

Apropos. A farmer who is a firm believer in the degeneracy of wheat to cheat, informed us that he saw a whole field of cheat, and that the owner was cutting it for hay. It proved to be a fine crop of rye grass—*Lolium perenne*.

SALT USED AS MANURE.

MR. SMITH: Richmond, Va. June 1, 1832.

Having long considered salt as one of the cheapest and best manures we could apply to our lands, and having a small lot of very light sandy land, I determined to apply it in conjunction with clay and a small quantity of lime, which I concluded to add only because it was convenient to the spot to be manured. I dug from a pit two hundred bushels of good red clay, and to a layer of twenty bushels I scattered not quite a peck of ground alum salt and one bushel of oyster shell lime unslaked; going on until the whole of the clay was used. To the two hundred bushels of clay there were ten of lime and two of salt. The heap remained in that situation until late in April, when I measured an acre of land carefully, which had been ploughed the preceding winter; on this the mixture was neatly and carefully scattered; on the adjoining acre I scattered two hundred and twenty bushels of the clay, without the salt or lime; on the next I scattered ten bushels of lime; and on the fourth I sowed two bushels of ground alum salt. The land was then laid off in rows four feet each way and planted in corn which was thinned to one stalk, and all received the same cultivation. In October the corn from the first acre was gathered, and measured thirty-one bushels and one peck. On the second there were fifteen bushels and a half; about the quantity the land would have been capable of producing without the addition of lime or other manure. On the third twenty-one bushels and a half peck. And on the last, with salt alone, twenty-four bushels and a half peck, making a large difference in favor of the mixture. If the result of this experiment is worth insertion in your useful paper, it perhaps may be of use to the owners of the sandy soils in the lower part of Virginia. SANDY LAND.

FARM.

A writer in the Massachusetts Agricultural Repository, vol. 7, page 320, in treating "on the extent of land necessary for a farm, and sufficient to support a family well and independently," has the following among other valuable remarks:—"We know men, active, intelligent and industrious, possessed of thirty or forty acres of land, who are laboring for others, or taking charge of their neighbors' concerns, upon the avowed reason, that they cannot support their families on so small an extent of land. But they do not realize the actual efficiency of the soil. Undoubtedly there are many honorable exceptions to the observation we are about to make; as a general rule, however, it may be asserted, that the farmers of Massachusetts are yet to learn the immense productive power of a perfectly cultivated acre. Instead of seeking riches in augmenting the number of their acres, let them be sought in better modes of husbandry. As a general truth, we believe it may be asserted, that every farmer in Massachusetts, possessed of one hundred acres of land, might divide them fairly, by quantity and quality, into thirds, and by a suitable cultivation make either third more productive than his whole hundred acres are at present. This is the operation at which those interested in the agriculture of Massachusetts ought to aim; to make farmers realize what cultivation can effect, and to teach the modes by which the productive power of the soil can best be elicited."

HORTICULTURE.

(For the American Farmer.)

PLANTS.

In an article headed "PLANTS" from the Lancaster Miscellany, we are told that "Honey-dew is a sticky exudation on the leaves of plants." The researches of Curtis, however, present a different view of this subject, and I copy the following from Nicholson's Encyclopedia:

"In the quality of the excrement voided by [the aphides] there is something wonderfully extraordinary. Were a person accidentally to take up a book, in which it was gravely asserted, that in some countries there were certain animals which voided liquid sugar, he would lay it down, regarding it as a fabulous tale, calculated to impose on the credulity of the ignorant; and yet such is literally the truth. Mr. Curtis collected some on a piece of writing paper, and found it to be as sweet as sugar. The glossy appearance it gave the leaves it fell upon—led him to imagine that the honey-dew of plants was no other than this secretion, which further observation has since fully confirmed; and not, as its name implies, a sweet substance falling from the atmosphere.

"It neither falls from the atmosphere, nor issues from the plant itself, as is easily demonstrated. If it fell from the atmosphere, it would cover every thing it fell upon indiscriminately; whereas we never find it but on certain living plants and trees. We find it also on plants in stoves and green-houses, covered with glass. If it exuded from the plant, it would appear on all the leaves generally and uniformly; whereas its appearance is extremely irregular, not alike on any two leaves of the same tree or plant,—some having none of it, and others being covered with it but partially. It is probable that there never exists any honey-dew but where there are aphides; though such often pass unnoticed, being hidden on the under side of the leaf; and wherever honey-dew is observable upon a leaf, aphides will be found on the under side of the leaf, or leaves, immediately above it, and under no other circumstance whatever. If by accident any thing should intervene between the aphides and the leaf next beneath them, there will be no honey-dew on that leaf."

The same writer in the Lancaster Miscellany says,

"It is a mistaken opinion that flowers in a bed-room will injure the air." It is true that a different opinion is expressed in the same paragraph, and the reader may be puzzled to know which is the most correct. Probably both are correct in certain cases. I have found some flowers soon become offensive in a bed-room, as those of *Hibiscus militaris*, &c., but the flowers of *Narcissus* (Daffodil and jonquil,) of the Aconitum or Wolf's bane, and many others, are known to be deleterious; and persons of delicate nerves ought carefully to avoid such effluvia in confined rooms.

In another article from the Lancaster Miscellany, the *Hedysarum gyrans* is represented as a native of Spain, and that its motions are caused by electricity. The reference to its native locality is doubtless a mistake; and in the following extract from London's Encyclopædia of Plants, the cause of its motion is left undetermined:—

"*Hedysarum gyrans* is a native of Bengal near the Ganges. This is a wonderful plant, Linnæus observes, on account of its voluntary motion, which is not occasioned by any touch, irritation, or movement in the air. No sooner had the plants raised from seed acquired their ternate leaves, than they began to be in motion, this way and that; this movement did not cease during the whole course of their vegetation, nor were they observant of any time, order or direction; one leaflet frequently revolved, whilst the other on the same petiole was quiescent; sometimes a few leaflets only were in motion, then almost all of them would be in movement at once: the whole plant was very seldom agitated, and that only during the first year. It continued to move in the stove during the second year of its growth, and was not at rest even in winter. Supp. Linn. Swartz observes that the motion is irregular, and that it sometimes ceases entirely; that in a very hot day it is immovable, being agitated only in the evening, and that slowly. In our climate, the leaves in general only make a faint and feeble attempt towards the middle of the day, at exerting this extraordinary faculty. *Shaw*.

"This motion does not depend on any external cause that we can trace, and we are not able to excite it by any art that we possess. It is not the action of the sun's rays, for this plant is fond of shade, and the leaves revolve well on rainy days, and during the night; exposed to too much wind or sun, it is quiet."

A CONSTANT READER.

(From the Genesee Farmer.)

CURCULIO.

Greatfield, 6 mo. 7, 1832.

Dear Friend—On the first of this month I observed some Curculios on the plum trees in my fruit garden; and not knowing how numerous they might prove, or how much danger was to be apprehended from them, we spread the sheets which we keep exclusively for this purpose, and by shaking, from about fifty trees we caught more than thirty of those insects. Since that time, on different days, we have made similar trials; but we soon became satisfied that only a few were left; and unless others migrate hither, which the movements of the hogs will be likely to prevent, I think their depredations will be very limited this season.

To show the difference between this and last year, I will add that *then* we caught more than three hundred at different times within twenty-four hours.

Although I destroyed so many of the worms last autumn, which infested the quince tree; and although the small woodpecker examined the trees after me, and must have taken many more, if I may judge of his openings into their excavations,—yet within a few days, I have found a remnant of these depredators at work. At this season they are easily detected by the orange colored filth which drops from their holes on the ground. By cutting into these with a chisel or pruning knife, and then using a barbed wire, they may

be easily drawn forth; and I hope that those who cultivate the quince tree will lose no time in attending to the business. Very respectfully,

N. GOODSSELL.

D. THOMAS.

The Curculio made its appearance in our gardens at Rochester about the same time as mentioned by our friend, D. T.; but owing, as we supposed, to the unfavorable weather, very few have been seen until the present week, and our apricots, netaries and plums, have remained comparatively uninjured; but on the 10th and 11th the temperature of the weather increased, and these depredators did considerable injury to our small fruits. From the long continuance of wet, cold weather which we have had, we hope their numbers have been diminished.—Ed. Gen. Farmer.

P. S. Since the first side of this number was printed, we have received a letter, dated 6 mo. 11, from D. THOMAS, which would have been inserted instead of the preceding had it been received in season. Mr. T. says he was mistaken in the opinion he had formed as to the limited number of the Curculio the present season, and proceeds as follows:

"Not three days ago, I saw that many of the plums were punctured; and began to suspect that shaking the trees was not sufficient. Under a tree in the remote part of the fruit garden, having spread the sheets, I therefore made the following experiment: On shaking it well, I caught five Curculios; on jarring it with the hand I caught twelve more; and on striking the tree with a stone, eight more dropped on the sheets. I was now convinced that I had been in an error, and calling in the necessary assistance, and using a hammer to jar the tree violently, we caught in less than one hour more than two hundred and sixty of these insects.

"Under a considerable number of these trees, the hogs had been fed with small grain, which to gather up, gave them much employment, and the ground was trodden like a highway; yet this has not proved a sufficient protection. It may afford some satisfaction, however, to state that we have not found more than one-fourth or one-fifth as many insects on these trees, as on those which the hogs have seldom visited."

(From the New England Farmer.)

HOT WATER APPARATUS.

In a late number of Loudon's Magazine, mention is made of a hot water apparatus in ainery at the Earl of Egremont's Patworth, Sussex, in which it is stated that theinery is sixty feet long, and twelve feet wide; it is twelve feet high at the back, and five feet in front; the boiler is two feet in diameter; the quantity of water in the boiler and pipes is one hundred and sixty gallons.

A small fire was made each day at 3 o'clock in the afternoon, a little more fuel was added at six and nine o'clock, and nothing more was done to the fire until the next day at three o'clock in the afternoon. The quantity of coal consumed is less than one-third of what was used when the common flues were employed. According to the present system, the whole of the water; one hundred and sixty gallons, is in circulation twenty-five minutes after the fire is put under the boiler. There are nine houses of the Earl of Egremont's heated on exactly the same plan, all of which act remarkably well. Upwards of twenty degrees more of heat could have been kept up, during the severe weather in January last, had it been found necessary.

These remarks are followed by a table, showing the results of a series of observations to ascertain the difference of the temperature without and within the house, the temperature of the water in the boiler, &c. which may be found in Loudon's Magazine for April last, page 142.

(From the New York Farmer.)

CABBAGE TREE OF LAPLAND.

M. Garnier of Auxonne has received from the director of the nursery of Lyons, twenty seeds of this cabbage, which is said to be entirely different from the *Chona Cavalier*, the *Ruta-baga*, or the common cabbage of Lapland. M. Garnier says, that it thrives better and puts forth more shoots, the more bitter the cold is; that its leaves are rather more than a foot long. In the second year, it attains the height of four or five feet, that its top becomes ramified, (branching out) its flowers yellow and streaked. The fruit is about four inches long; and it produces three times as much seed as other oleginous plants, and also in winter, it affords considerable forage.

[None of the seed of this cabbage yet received in the United States.—Ed. Am. Farmer.]

TO DESTROY FLIES, BUGS, &c.

To destroy the Black and Green Fly.—Take some strong yellow clay, such as is used for grafting, put it into a tub and fill the tub with water; then let a man work it with his hands till it becomes like thin paint. Fill a pan, such as flower pots stand in, with it, and as only the points of young shoots are infested with the fly, dip them into the clay and water; in ten minutes it will dry on the leaves, and will completely destroy the flies or any other insects that may be upon them. The clay will look dirty on the trees for a few days; but the first shower of rain washes it completely off, and the shoots will look more healthy than before it was laid on. There is no fear of the return of the insects that season. The scale on pines may be destroyed by the same mixture.

To destroy the Bug [American blight, *Aphis lanigera*] upon fruit trees.—Take clay, as I directed for the fly, and work it till it becomes of the consistence of whitewash; mix with every six gallons of it, two pounds of cream of tartar, one pound of soft soap, and half a peck of quick lime. When you think the weather is likely to continue dry for some time, take a bucket full of this mixture, and with a large brush wash over the bark of the trees, wherever you think that it is or has been infested with the bug. A man will do a great number of trees over in a few days, with a whitewash brush and this liquid. Five years ago, I had some young apple trees that were completely covered over with the bug; I washed them with this liquid, and I have never since seen the least sign of the bug upon them. I have practised the same method repeatedly on other trees, with the same success; and find it only necessary to be careful to do it in dry weather, so that the rain may not wash off the mixture for some time.

To destroy Flies and Wasps.—A mixture of pepper, sugar, and water will do this effectually.

(From the New England Farmer.)

REMOVING FLOWERS.

As to the preference of wicker baskets, as compared with pots, (and it may be added, as compared with boxes,) for the conveyance of young plants, in certain cases, from place to place; employed by the Hon. Joseph Robley, president, and commander in chief on the island of Tobago.* The memorandum is as follows:—August, 1801.

Mr. Robley stated, in favor of wicker baskets, that they are light and easily removed from place to place; and that when plants are to be set out where they are to remain, the plants need not be shifted from the baskets; but, if suffered to continue in them, the baskets will soon rot in the ground; and in the meantime, the roots of the plants will extend themselves into the adjacent soil, without impediment.

Yours, with respect,

A. B.

* Mr. Robley obtained a gold medal for his plantation of bread-fruit trees.

(From the Genesee Farmer.)

ENGLISH FILBERT.

I have cultivated the English filbert six or eight years; the bushes are seven or eight feet high, and enough of them to produce bushels of nuts, if they were productive; but in all this time, the whole amount of my crops, taken collectively, has been only three single nuts! I have lived on in the hope of better success until within a few weeks past, when a horticultural friend assured me, that from all he had seen and known, nothing better was to be expected; that his filbert tree had been destroyed by accident, and in place of lamenting over his loss, he considered it the removal of an ineumbrance from his grounds.

Further inquiries have been made of others, and the result has been a confirmation of the worthlessness of this tree. I believe I have two varieties; at least I got them from different places, under different names, but their sterility is much on a par. I now wish to know of the Editor, or some of his correspondents, if there is not some other more productive variety, which may help to amuse us, during the long evenings of winter, in the nut-cracking line?

A PRACTICAL GARDENER.

We have watched the effects of the climate for the last two past years upon filberts in this neighborhood. The catkins, or male parts of the flowers, have put forth in good condition; as have also the pistils of female parts but the latter have been destroyed by late frosts each year, and of course they have not produced fruit. The trees grow vigorously, and do not appear to be injured by the winter.—*Ed. Gen. Far.*

(From the Genesee Farmer.)

CUCUMBERS.

Perhaps some lover of cucumbers may be benefited by a knowledge of my method of raising them.

Take two or three old barrels, either with or without bottoms, bore a number of holes near their lower ends, sink them a few inches in the ground in a suitable situation; fill them about two-thirds full of manure, raise the earth a little round the outside of them, and plant from nine to twelve seeds four or five inches from them; place some brush against them to defend the young vines from the bugs; in dry weather, pour every day one or two pails of water into the barrel, to enrich and moisten the earth around them. At the proper season, gather cucumbers as often as you want them, until the frost kills the vines. J. GIBBONS.

RURAL ECONOMY.

(From the New England Farmer.)

SHEARING SHEEP, &c.

Mr. Lawrence, an eminent English writer, asserts, "It has frequently appeared to me, on reflection, that it might be preferable to shear all kinds of sheep unwashed, and to wash them after shearing, when it would be much more effectual with respect to their health. Such as were affected with foulness or eruption of the skin, might be washed and scrubbed in a ley of water and wood ashes, in a large tub which would contain three. It would both conduce to the health of the sheep and promote the regular growth of the wool. Wool would probably keep best in the grease, and dust might be shaken from it.—Any difficulty in respect to fixing the price of wool in an unwashed state, would vanish in a season or two."

"Clipping off the coarse soiled wool about the thighs and docks," says Loudon, "some weeks before the usual time of washing and clipping the sheep, is an excellent practice, as by this means the sheep are kept clean and cool when the season is hot; and with

ewes, the udders are prevented from becoming sore." In separating for the purpose of washing, the flock is brought to the side of the washing pool, and those lambs and sheep of different kinds, fit to be washed, are put into separate inclosures; and such lambs as are too young to be clipped are not washed, but confined in a fold or inclosure of any kind, at such a distance from the washing place that they may not disturb their mothers by bleating.

In performing the operation of washing, it was formerly the method to have the washers standing up to their breast in the water; but from the inconvenience and danger of it, (the men requiring a large supply of spirituous liquors, and being liable to be attacked with colds, rheumatisms, and other diseases.) various other modes of performing the operation have been proposed. Among others, that of sinking an empty hoghead or other vessel of sufficient capacity for a man to stand in while washing the sheep, may be as eligible as any. A boat near a bold shore of a sheet of water, with one end aground, by which the sheep is introduced and put overboard, while the man who washes him remains in the boat and extends his arms over the sides, and thus performs the necessary manipulations, furnishes a convenient mode of washing sheep. A small perpendicular waterfall, under which sheep are conducted, may likewise be used to advantage for that purpose.

It was uniformly the practice, immediately after shearing, to smear the bodies of sheep with some ointment, in which tar is the chief ingredient. This, however, has been condemned, as causing a waste of wool in carding and manufacturing into cloth. But if the tar is mixed with a sufficient quantity of some greasy substance, the benefit may be obtained (which is to preserve against ticks and the scab, as well as to increase the growth of the wool,) without any bad consequence resulting. A writer in Rees' Cyclopaedia, on wool, says in favor of a composition much used in Northumberland, England, and gives the following directions for making it: "From sixteen to twenty pounds of butter are placed over a gentle fire and melted; a gallon of tar is then added, and the mixture is then stirred with a stick until the tar and butter are well combined, and form a soft tenacious ointment." Some skill is required in its application. The locks should be divided, and the ointment applied directly to the skin. It does no good to apply it to the outside of the wool, but it must come in contact with the skin. This is best effected by opening the wool along the neck and back, and applying the ointment with the finger. In short, you must apply it in such a manner that it will be most likely to spread over every part of the body. The quantity laid on each animal differs in different districts. In the lighter mode of greasing, one gallon of tar and twenty pounds of butter will be sufficient for fifty sheep. In Scotland, where greasing is applied merely to preserve the animal from inclemency of the climate, a much larger proportion of tar is used. This would be very injurious to the wool were it any other but the coarsest kind. To derive the greatest advantage from the ointment, both to the wool and the sheep, it should be applied immediately after shearing and again on the approach of winter. By the first greasing, the wool will be kept soft and moist during the sultry heats of July and August, and the top of the staple will not become harsh and discolored. One acknowledged advantage of greasing immediately after shearing should not be overlooked—it destroys the sheep tick, and has a tendency to prevent cutaneous distempers, and to protect the skin against the bite of the fly.

Mr. J. Nelson published a recipe for the scab on sheep, similar to the above, but which we should suppose might answer a still better purpose; it is as follows: "Take three gallons of tar and three gallons of train oil, boiled together, to which add three pounds of roll brimstone, finely powdered and stirred in." This quantity is sufficient for ninety sheep. It is poured

on with a pitcher or ladle from the top of the backbone to the tail.

When the object is solely the destruction of ticks, a strong decoction of tobacco is probably as good an application as can be prescribed. Lambs often suffer much from ticks, after the sheep are sheared; as the ticks which are driven from the old sheep take refuge with the lambs. It will, therefore, be advisable to apply either the ointment or the tobacco decoction to the lambs as well as to their elders. And in all cases see that your application goes to and spreads over the skin as equally as possible, instead of wetting or smearing the outside surface of the fleece, where it will be of more harm than benefit.

(From the New York Farmer.)

WHITEWASH.

Middlesex, May 28, 1882.

In your paper of the 17th May, I observe a communication [taken from the American Farmer, vol. xiv, No. 9, page 65,] over the signature, *A. Claylie*. I conceive this gentleman is much mistaken in his ideas of painting.

One of the chief objects of painting is to fill the pores of the wood with oil to exclude the water, and preserve the wood from decay. Whitewash, whether of clay or lime, is destructive of all these objects; it retains the water, hastens the decay of the wood, and is every way detrimental to the wood work of buildings. It has been tried on a large scale in the West, found injurious, and exploded years ago. CARLO.

MISCELLANEOUS.

(From the St. Louis Beacon.)

We make room in our columns of to-day, for the following highly interesting article on the subject of Texas. It was furnished us by a gentleman who has lately travelled through that country, and the information may therefore be relied on as authentic.—Whatever relates to that district of country is of interest to the people of the United States, and more especially to the West. Whoever will cast his eyes on the map, will perceive that its possession by a foreign government breaks in upon the symmetry of our territory, and looks very much like treading upon the toes of the United States.

TEXAS.

May 5, 1882.

I landed in Texas at the mouth of the Brassos river, which empties itself directly into the Gulf of Mexico. The land on the northeast side of the river is a barren, sandy prairie for many miles, say 5 or 6; after which you enter upon good land and good timber, but there is a scarcity of drinking water. About four or five miles northeast of the mouth there are plenty of oysters, on Oyster Bayou and are of tolerably good quality. On the southwest side of the river, the land is good, and is held for many miles along the coast and the river, by Col. Stephen B. Austin, and is called Austin's reserve. The river at its mouth makes a *bay*; which I am told is common to most of the rivers of this country; the consequence of which is, that vessels are sometimes delayed, waiting for the tide, to ensure a safe entry. Navigation for vessels drawing from five to eight feet, is easy and good for fifty or sixty miles up the Bessor, the Colorado, the La Baca, and the Gaudalope. On the Brassos, vessels run to Marion, a newly laid off town, twelve miles by land above Brazoria, where all goods for the upper country are deposited. From the mouth of the Brassos to Brazoria, on both sides of the river, the land is generally rich and productive, and sufficiently well timbered for all farming purposes; the prairies are commonly good farming lands, and the people, for the most part, both in Austin's and Dewitt's colonies, seem to prefer prairie situations for building and farming. The country generally, from the mouth of the Brassos to San Felipe De Austin, and for twenty

miles above, is flatter than I could wish—not swampy, badly watered, but well calculated for cotton and sugar planting; I entertain no doubt but it is equal, if not superior to the Louisiana lands for sugar.

In that portion of the country of which I have just spoken, the most of the water courses, the Big and Little Bernards, Caney Creek, &c. are bounded on each side, for from a half to a mile, with what the settlers call cane and peach, the soil of which is remarkably light, productive, and easily put in cultivation; nothing having to be done but to cut away the cane and what few peach saplings are standing among it. These peach saplings, as to the texture, smell, and the grain of the wood, resemble very much the peach tree which is cultivated in the United States of the North;—the greatest difference seems to be, that the Texas wild peach has a small black berry, which, however, serves as a fine mash for hogs. From San Felipe De Austin, which is situated on the Brassos river, ninety miles from its mouth, southwest and west for about thirty miles to the Colorado river, the country is an entire barren, sandy prairie; but across the country east and southeast from Major William Robinson's, on the Colorado, to the neighborhood of Col. John P. Coles' and Nestor Clay's, embracing Mill and Yegua creeks, the land is good and well timbered. The neighborhood is forty-five miles above San Felipe De Austin.

On the 25th of December, 1831, I went into the Yegua bottom in company with Nestor Clay, to look at his cattle, and found the bottom thickly set with a luxuriant green coat of winter grass, half leg high, and his cattle comparatively scarcely able to support their load of fat—indeed, I think I have rarely, if ever seen, fatter beef produced in any market. For twenty miles east of San Felipe De Austin, the land is of the flat description I before mentioned; but from that to Col. Coles, the country rises gradually, and breaks off into beautifully high, rolling prairie and timber, occasionally interspersed with small creeks, affording sufficient water to turn small mills—though I do not think the land quite so rich, but it is a beautiful farming country, and the prospect is a very imposing scene—the ridges rising regularly one higher than another, as far as the eye can carry you, frequently bedecked with live oaks and evergreens. The description I have already given will apply with equal correctness to Dewitt's colony, only that the land upon which the Gonzales is situated, and for many miles round, is rich and fertile, which is not the case with the lands adjacent to San Felipe De Austin—besides the mountains come nearer to the seaboard in Dewitt's colony than they do in Austin's. Dewitt's colony is also better watered than the other, and I am of opinion that the air is purer and more wholesome—more mill-seats and water power to carry on machinery of every description present themselves.

In the colonies, owing to the scarcity of rock from which to make lime, the people are likely to succeed in procuring a substitute, by burning a kind of clay resembling very much our lime—this clay is found in abundance, in the bottoms, and along the margins, of some of the creeks; it is quite hard and firm, and by experiment has been proved to answer the purpose. Many of the prairies in both colonies, are what the inhabitants call hog-wallow lands, and present to the eye the richest loam of soil I ever saw. I know not what to compare the appearance of those prairies to, better than saying they resemble the undulating waves of a gentle sea. Most kinds of timber common to the United States of the North, are to be found in those colonies. We have but little hickory, but the pecan supplies its place, and is very abundant. There is no poplar here, but cypress and cedar, and on and near the mountains, pine of good quality. Gonzales is situated in the Rio-Gaudaloupe, on a prairie bluff, is seventy miles from the mouth of the Rio-Labaco, forty miles from the mountains, has an inexhaustible quantity of good timber convenient to it on both sides of the river, and is in latitude 29° 4 north.

The mouth of the Labaco is the best landing place yet discovered, for persons emigrating to Dewitt's colony. Gonzales is seventeen or eighteen miles distant from the mouth of the Brassos, ninety miles from San Felipe De Austin, and sixty-five or seventy miles from Bescar, alias San Antonio.

As regards agricultural pursuits, Captain Westall made and saved, last year, (1831,) 76 bales of cotton, averaging 550 pounds each, 1420 barrels of corn, and 700 bushels of sweet potatoes, with seven hands; Robert Williams raised 60 bales of cotton, also a necessary supply of corn, potatoes, &c. with four hands; Thomas Cayce with his own labor and that of four small boys, cleared 21 acres and 17 poles of land, some 5 or 6 acres having been previously opened, made 18 bales of cotton, averaging 450 lbs., and I was of opinion that there still remained in the field from 3 to 500 pounds per acre; he also made corn, potatoes, &c. in abundance—he had 7½ acres in cotton; Doctor Benjamin Wilkins measured a sweet potato at Munson's, its circumference was 29 inches, it had been out of the ground some time, and was pretty well dried; Mr. Hummedien informed me that he knew several farmers, who had made and saved 80 bushels of corn to the acre. While in company with Mr. Royall, he showed me a field which he held last year, from which he gathered 50 bushels of corn per acre—he planted the corn by making a hole in the ground with the end of a handstick, and had the weeds chopped down once with a hoe. Mr. Royall also pointed out to me the field of one of his neighbors, from which was gathered 2000 pounds of cotton per acre—it was planted and cultivated in the same way that Mr. Royall planted and cultivated his corn. Mr. William Robinson, last year made a successful experiment as regards the growing of wheat—he saved 25 bushels per acre, of good, sound grain. This year, he, Col. John P. Coles and others, are sowing more extensively—I have not seen, at any time, at this season of the year, a better prospect for an abundant crop, in any portion of the United States of the north. A man with no one to assist him on Oyster Bayou, last year, from ten acres of ground, deposited in a warehouse in Brazoria, 700 bushels of corn, for sale; he sold \$30 worth to his neighbors or emigrants, and kept enough for his own use for the year—he planted and cultivated it entirely with his hoe.

The increase of stock will appear almost incredible to any but those who visit the country and are apprised of the veracity and respectable standing of the persons from whom they derive their information.—Heifers, most commonly, have calves at 18 months old, often at 16 months, and frequently a cow will bring 3 calves in two years; hogs increase much faster; at one year old, hogs generally weigh from 180 to 200 pounds. Neither cattle nor hogs require any feeding—the range in all human probability, will be good for a century to come. It is necessary, for the purpose of keeping your stock gentle to go among them occasionally. Sage, indigo, red pepper and onions are the natural and spontaneous productions of this country. The apple or the prickly pear dyes a beautiful red—it is tolerably plenty in the colonies; but in the interior it abounds, and the inhabitants build sufficient fire in the cluster to burn off the prickles, after which oxen are very fond of eating it.

Since writing the foregoing, I have seen the country on both sides of the Rio Gaudaloupe, for fifty miles below Gonzales, as also that portion of Dewitt's colony which lies above Gonzales and Bescar. The lands on the southwest side of the river are very handsome, for the most part, well timbered and watered. On the northeast side of the river, I am not so well pleased with the appearance of the land; neither is there so much timber and water as on the southwest side, yet I think it will answer the views of farmers and stock raisers. Many persons of the United States of the north have very incorrect information as regards the Texas of the Mexican Republic, and the reputation of most of the settlers of the

colonia. The colonists are a very favored people—they have all the privileges of native citizens, with very few exceptions, and those exceptions embrace matters about which the Americans care little or nothing. The colonists have no taxes to pay of any kind. There is a heavy duty upon articles imported into the country; but that operates equally on the native and the foreigner. The Catholic religion is the established religion of the republic; yet, professors of religion from other countries hold family worship, and enjoy unmolested their religious tenets.

The opinion entertained by many, that the population of Texas is made up of individuals who have fled their country to evade the punishment which awaits the commission of crime, is erroneous. True it is, that there are some such characters in the country; but, really, I believe the character and respectability of the settlers of Texas to be as good, or better than I have ever yet found in any new country. The population of Texas is represented by some to be eight hundred, by others one thousand three hundred souls, and is increasing regularly. Salt to a considerable amount is made at Matagorda and the mouth of the Brassos river. Many of the citizens of De Witt's colony procure dirt within eight miles of Gonzales, which, after boiling down, yields one-half the quantity of good salt.

The fees of the commissioner are regulated by law, and are as follows:—For granting a deed to a league of prairie land \$15; for each labor of farming land included in the league \$2; besides the stamped paper which generally amounts to \$2. The amount payable to the government is in thirds, at 4, 5, and 6 years; that is also regulated by law, and is, for a league of prairie land \$30; for each labor of farming land, not susceptible of irrigation, included in the league \$2.50; and for each labor, which can be irrigated, \$1.50. The fee to the secretary of the commissioner, for his services as translator, &c. is, on a deed for a league of land, \$5, and on a quarter \$2. The surveyor is allowed by law \$3 per mile. The fee for a certificate of admission is \$5. A man of family is entitled to a league of land; a single man to a quarter of a league; and should a young man marry a Mexican girl, he will be entitled to a league and a quarter. A league of land contains twenty-five square labors of land, and is equal to four thousand four hundred and forty-four English acres; a labor is one hundred and seventy-seven acres.

The foregoing contains a plain unvarnished statement of facts.

PHILANDER PRIESTLEY.

To destroy Ants, Woodlice, &c.—Take one pound of oat meal and half a pound of coarse brown sugar, and mix them together; add to it two ounces of pepper, ground as fine as possible. Lay the mixture upon white earthen ware for woodlice and beetles, where they resort; and for ants cover it over so as to prevent its getting wet.

Another way to destroy Ants.—Toast the fleshy side of the outside skin of bacon, till it crisps, then lay it on the ground at the root or stem of any fruit tree that is infested by ants. Put something over the stem to keep it dry; the ants will go under it and fasten to it; lift it up quickly and dip it into a pail of water.

An effectual mode of destroying Slugs, &c.—Take a quantity of cabbage leaves, and either put them into a warm oven or hold them before the fire till they are quite soft; then rub them with unsalted butter or any kind of fresh dipping, and lay them in the place infested with slugs. In a few hours the leaves will be found covered with snails and slugs, which may then of course be destroyed by any mode the gardener may think fit.

Woodlice and Earwigs, wherever they exist, will also be attracted by leaves thus prepared, if placed in the sheds they frequent.

(From the Dumfries Courier.)

GARDENING AT SEA.

We were on board of a vessel the other day, just about to sail for America, and were most hospitably received in a fine, airy, roomy cabin. The captain's wife was present, and on the supposition that she was a permanent inmate, we remarked, that though she could boast of not only a floating cottage, but a cottage on ice, she nevertheless lacked the comfort of a kitchen-yard for the cultivation of savoy and other pot herbs. "And there you are wrong," said the captain, "and if you will go with me I'll soon show you as goodly a crop of greens as you would wish to look upon." Our curiosity being excited, we followed him to the hold, and there beheld on a large scale, a novelty, or rather phenomenon, in horticulture. The plan was this: A sufficient number of savoy plants are pulled up by the roots, and replanted among the sand used for ballast. After a few days, the outer blades fall off, and on the other hand, new ones spring from the heart; and Capt. Carson assured us, that his stock of vegetables would continue quite fresh for months, and, barring accidents, thicken the broth of a dozen persons, lessen the chances of scurvy, and otherwise mitigate the effects of salted provisions, till the mail at the mast-head described their destination, Chaleur bay, on the shores of America.

Solvent for Putty.—To move panes of old glass from sashes, spread with a small brush, a little nitric or muriatic acid over the putty, and it will soon become soft, and can be removed without injury.

Prices Current in New York, June 23.

Beeswax, yellow 18 a 20. Cotton, New Orleans .104 a .13; Upland, .54 a .11; Alabama, .9 a .114. Cotton Bagging, Hemp, yd. 14 1/2 a 17; Flax 13 a 14 1/2; Flax, American, 7 a 8. Flaxseed, 7 bush, clean —; rough —; Flour, N. York, bbl. 6.00 a —; Canal, 5.87 a 6.25; Balt. Hwd-st. 6.50 a —; Rhd. city mills — a —; country, 6.00 a —; Alexandria, 6.37 a 6.50; Fredericksburg 5.87 a —; Peters, 6.00 a —; Rye Flour, 4.75 a —; Indian Meal, per bbl. 3.50 a —; per hid; 16.00 a —; Grain, Wheat, N. York, — a —; Vir. 1.15 a 1.25; Rye, North, 79 a 85; Corn, Yel. Nor. 65 a —; Barley, — a —; Oats, Sth. and North, .46 a .52; Penn. white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; Potatoes, Beef, mess 9.50 a 10.75; prime 5.37 a 6.00 cargo — a —; Lard, 7 1/2 a 9 1/2; Pork, mess, bbl. 12.75 a 14.00; prime 10.25 a 10.81.

VALUABLE COW AND CALF FOR SALE.

A COW, six years old, with a young BULL CALF, of the celebrated Teeswater and Holderness Breeds, will be sold cheap if immediate application be made. The ancestors of these animals, (a full bred Holderness Bull, and two full bred Teeswater Heifers) were brought to this country by Richard Parkinson, of Doncaster, (England) and their progeny have been kept unbroken to the present time. This cross is said to be the origin of the Short horn Durham Cattle. The breeder of the Cow and Calf, (in whose possession the breed has been since their arrival from England), prefers this race, as milkers, to any other. The Calf is a fine formed animal two months old. Apply to I. I. Hitchcock at the Office of the American Farmer.

June 1.

BULL CALF FOR SALE.

An extraordinary Fine Bull Calf, which weighed at six days old one hundred and thirty pounds,—grandson Col. Powel's Bull Farmer; granddam a Holstein Cow, which gave Thirty Quarts of milk per day for many weeks after having had a Calf, and an average of Twenty Quarts of milk per day the year round; sire a half blood Durham. The Calf is handsomely marked, and can be delivered in Philadelphia at six weeks old. Price \$30. Apply if by letter (post paid) to Samuel Williams, Hilton Farm, Front st. road, near Philadelphia.

TURNIP SEEDS.

As the season for sowing Turnips is at hand, we offer for sale at the American Farmer Office and Seed Store, the following choice kinds of Seeds, which may be relied on as fresh and genuine, viz.

EARLY DUTCH, WHITE FLAT
EARLY WHITE DUTCH, RED TOP
GARDEN STONE, YELLOW FLAT,
LARGE ABERDEEN, RUTA BAGA,
LARGE NORFOLK FIELD, YELLOW BULLOCK.

Also the following choice PUMPKIN SEEDS: Connecticut Field, or Northern; Mammoth; Pennsylvania Field, and Cushaw.

DURHAM SHORT HORN BULL CALF.

A full blood improved Durham Short Horn Bull Calf, by Gloucester, out of a first rate thorough bred Cow, four months old, well formed, of good size and points, for sale by the Editor of the American Farmer. Price, if immediately taken, \$150. Apply to I. I. Hitchcock, office of the American Farmer.



CORN CULTIVATORS, HARVEST TOOLS, &c.

The subscribers have prepared a good stock of CORN CULTIVATORS, both wrought and cast lines; GRAIN CRADLES, with best quality warranted Seythes attached; GRASS SCYTHES and SNEADS ready hung or separate; Steel Hay, Grain, Manure FORKS and improved Wheat Fans. They are also now manufacturing and preparing to furnish Lane's Patent THRASHING MACHINE at \$75. Horse Powers \$75, which, together with their usual stock of Ploughs and other Agricultural Implements, are offered for sale on accommodating terms.

Also a supply of SWEET POTATO ROOTS, for planting. SINCCLAIR & MOORE, Grant street, near Pratt street wharf.

AGRICULTURAL IMPLEMENTS AND FRESH GARDEN SEEDS.

The subscriber offers at his store and manufactory, No. 96 Pratt street, between Hanover and Charles streets, a great variety of AGRICULTURAL IMPLEMENTS, consisting of his Patent Cylindrical STRAW CUTTERS; Gideon Davis' Patent PLOUGHS, with cast and wrought shares, and Castings for the same to supply those worn out; Substratum and Shovel Ploughs; Harrows; Robbin's Patent Corn Planter; Corn Cultivators; Corn Shellers; Wheat Fans; Wire Saws, Hay and Manure Forks, by the single or dozen; Grass and Grain Seythes; Grain Cradles; Hay Rakes, Mattocks; Picks and Grubbing Hoes; Weeding and Hilling Hoes. A variety of Garden and Horticultural TOOLS, &c. &c. Those articles manufactured by himself special pains have been taken to procure the best materials and to have the work executed in the best manner.

Also, a great variety of GARDEN SEEDS, both European and American, and all of last year's growth, embracing a great variety of Beans, Cabbages, Radishes, late Peas, Bene Seed, &c. &c. And the following FIELD SEEDS, viz: Tall Meadow Oat Grass; Lucerne, of Prime Quality; Mangle Wurtzel, Ruta Baga; Large Yellow Pumpkin, by the quart or bushel; and White Italian Mulberry SEED, of prime quality.

Just received from Europe a supply of Fresh LUCERNE Seed of prime quality, which will be sold at market price; and also a quantity of White Italian Mulberry Seed fresh and of fine quality, at 50 cents per ounce. J. S. EASTMAN.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—A reduction has been made in the prices of flour, Howard street selling from wagons yesterday at \$6.25. There are very few sales from stores. Grain is selling at quotations. Rye has receded considerably, and we quote the highest at 80 cents. It has been paid for Susquehanna rye, 80 cents. It is not expected that this price will continue.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 3.00 a 3.00. —Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; mixed, 6.00 a 6.00; wrappery, suitable forseags, 6.00 a 15.00; yellow and red, 3.00 a 15.00; yellow, 16.00 a 20.00. —Fine yellow, 18.00 a 26.00. —Virginia, 4.00 —Rappahannock, 3.00 a 4.00. —Kentucky, 3.50 a 6.00.

Flour.—best white wheat family, \$6.75 a 7.25; super Howard-street, 6.50 a 6.82; city mills, — a 6.50 Susq. 6.25 a —; CORN MEAL bbl. 1.35; SUSQ., best red wheat, 1.20 a 1.25; white do 1.35; SUSQ., — a 1.50 —CORN, white, 62 a 65, yellow 62 a 65; RTE, 60 a — —OATS, 45 a 46 —BEANS, 15 a 20 —PEAS, 65 a 70 —CLOVER-SEED — a —TIMOTHY, — a — —ORCHARD GRASS — a —Tall Meadow Oat Grass — a —Herd's, 75 a 87 1/2 —Lucerne — a 87 1/2 lb. —BARLEY, Flaxseed 1.50 a 1.62 —COTTON, Va. 80 1/2 —Lou. 9 a 13 —Alab. 8 a 11 1/2 —Tenn. 8 a 10; N. Car. 8 a 10 —Upland 8 a 11 1/2 —WHISKY, hhd. 1st, 28 1/2 c —; in bbls. 30 a 31 —Wool, Washed, Prime or Saxony Fleeco 50 a 60; American Full Blood, 45 a 50; three quarters do. 40 a 45; half do. 35 a 40; quarter do. 30 a 35; common 25 a 30. Unwashed, Prime or Saxony Fleeco, 30 a 35; American Full Blood, 27 a 30; three quarters do. 25 a 27; half do. 22 a 25; quarter do 20 a 22; common, 17 a 20 HEMP, Russia, ton, \$225 a 230; Country, dew-rotted, — a 7c. lb. water-rotted 7 1/2 a 8c. —Feathers, 36 1/2 a 37; Plaster Paris, per ton, 4.37 1/2 a —, ground, 1.50 a —bbl. iron, gray pig for foundries per ton 33.00 c —; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 72.50 a 80.00. —Prime Beef on the hoof, 5.50 a 6.75 —Oak wood, 3.25 a 3.50 —Hickory, 4.50 a —.

CONTENTS OF THIS NUMBER.

Editorial; Cheat; Old Wheat; Improved Cows; The Devon Cow—Fine Fruit—Sale of Wheat in Richmond, Virginia—Cultivation of Madder, Value of the Seed—To make the Bark grow over the Wounds and Diseased Places in Fruit Trees, &c.—Foreign Markets—Management and Produce of a Farm—Letter from John H. Craven on Cheat—Cheat and Spelt, an Experiment suggested—Value of Salt as Manure—Farm—Remarks on Plants—Curculio; D. Thomas' mode of Destroying them—Hot Water Apparatus—Cabbage Tree of Lapland—To Destroy Flies, Bugs, &c.—Wicker Baskets used for Removing Flowers—Cultivation of English Filbert—Raising Cucumbers—On Shearing Sheep and Washing Wool; Ointment used after Shearing—Whitewash Injurious to Wood—Texas; a general account of the Country and its Productions—To Destroy Ants, Woodlice, Slugs, Earwigs, &c.—Gardening at Sea—Solvent for Putty—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the office, bastment of Barnum's City hotel,) by I. IRVINE HITCHCOCK, on the following

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged by the year, and never for a shorter term.
3. Where one sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of this subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (unless more) at one dollar per line.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.
7. All Postmasters are requested to act as agents for the Farmer; they are authorized to retain \$1 for each new subscriber, and 10 per cent. on all other collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, JULY 6, 1832.

SUPPERNONG GRAPE.—Nearly three years ago, a communication was received from Mr. Norton, of Richmond, describing the Suppernong grape, accompanied by a fac simile impression of a leaf. The paper was mislaid till a recent overhauling of our pigeon holes brought it forth, and we now present it to our readers with the remark, that "it has lost nothing by age."

THE AGRICULTURAL INTEREST.—Were an opinion to be formed from the attention bestowed upon the subject by the newspapers of the day, the agricultural interest is the least important of all the departments of human industry, and the least respectable of all professions. The greatest space that is ever allotted to its discussion, is a column or two at most, and even this in some obscure corner of an outer page, as if fearful that the more respectable occupants of the inner temple of wisdom would be degraded, if not contaminated by the company of the tillers of the soil. True, very true, agriculture does not desire, nor does it seek the company from which it is thus excluded; and the place allotted it in the newspapers is most consonant to its retired and quiet habits; but this is no reason for the exclusion—its retiring modesty should not be made the excuse for excluding it from its merited station. Although our immediate interest would be promoted by the entire exclusion of all agricultural matter from the newspapers of the day, and is promoted by even the indignity of which we complain, we cannot witness with composure the treatment that agriculture receives from them. Almost every newspaper in the country, from the ample imperials of the cities to the "seven-by-nines" of the most obscure villages, makes politics the first subject of its devotion, and allots it the first place in its columns. The interests of foreign nations claim the next, in the space devoted to "foreign news;" then comes the record of crime—or more properly, the temple of infamy, in which the names and deeds of evil doers are immortalized—supported right and left by "accidents by field and flood," "wonderful coincidences," "tremendous storms;" &c. Even Miss Insignity and Mr. Simpleton are allowed a conspicuous place for their tales of love and homicide; and occasionally the minstrel is permitted to chant a ditty in the respectable and dignified company of politicians. The latter, however, is more generally sent out to the rural shades of the "Poet's corner," to tune his lyre. Lastly, we find on the *last* page, and as near to the outer edge as possible with regard being shovelled off entirely, a column headed "AGRICULTURAL"—as if agriculture was the last thing in the world worthy of notice.

But it is not only the place, but the space allotted the subject of which we would complain. While individuals are allowed whole broad sides, to blow them up and their opponents down, in political discussions and party warfare, in which the public good is the least thing cared for or thought of, a single column can scarcely be spared for the first and greatest of all human interests! Is it because agriculture is so well understood and firmly established that it requires no aid from the press? or is it, (as seems to be inferred by the obscurity of the place allotted to its discussion,) because the subject is unworthy of so dignified a forum as a newspaper?

We freely admit that newspapers are more necessary to politics than to agriculture; we admit they are essential to its existence as a science as at present understood. They are the wings of the political eagle, the food of the political epicure—take them from him and he falls to the ground; deprive him of them and he perishes. But are politics and politicians alone necessary to the welfare of a nation? If there is an office to be filled, or the ambition of a political aspir-

rant to be promoted, then politicians and politics are the acid and zinc to inflate the balloon; but in the day of want and of war, who is necessary then?

TYPE MACHINE.—Our readers are aware, we suppose, that all our labors in the cause of agriculture would be abortive but for the aid of *types*; and, consequently, that every improvement made in them is as interesting to us as to the rest of the world. A few days ago, we were politely permitted by Mr. Lucas, to examine the new type foundry, belonging to a company of printers and publishers of this city, and were highly pleased with the operation of a *machine* for casting types, invented by Mr. Edwin Starr, late of Albany, N. Y. It is probably known to most people, that types are usually cast singly, by pouring the fused metal into a mould, called a *matrice*; and that the operation is tedious and laborious—each type requiring about the same time and labor as the casting of a bullet. The machine casts about double the number of types that a man can in the same time; and merely requires the attention of a boy or girl of ten or twelve years of age. We cannot pretend to describe the machine, nor should we be understood by the generality of readers if we should do so. The matrice or mould is similar to the common one, but it is adjusted in a machine that moves it up to the furnace, when it receives the fused metal from a forcing pump, and returns, opens and delivers the type. All that the attendant has to do, is to move a small crank, and to see that the types do not hang to the matrice in the delivery, which does not require the strength of a child. Except Whittmore's card machine, we think this is the most ingenious invention we have seen. From a cause which will be readily understood by those who have studied gravitation, the types cast by this machine are not as heavy by about ten per cent. as those cast by hand, and they are therefore worth ten per cent. more to printers; for a foot that would weigh 100 lbs. if cast by hand, will weigh but 90 lbs. when cast in this machine. The reason is this—the air in the mould is prevented by the forcing pump from escaping, and is driven by the greater gravity of the metal to the centre of the type where it is confined; therefore, while the type is perfectly solid on the surface, and especially so at the letter end, the centre is full of little cavities, acting like little arches to support the walls of the types. No matter how small or thin the types may be, externally it appears perfectly solid, but internally it has these cavities. The metal being driven in by the pump with great force, it seeks an outlet at the extremity and round the sides of the mould, where it becomes most dense, the air mingling with the fused metal in the centre. From this, it will be perceived, that the type is just as good as it would be were it perfectly solid, and is specifically much lighter, and consequently much cheaper. The face of the type is much more dense, and of course more lasting than common type; and the cause will be found in the above explanation—the metal being driven with great force into the die, or mould of the face, is deprived of even the small portion of air that place which would remain in it in the ordinary mode. In addition to this we were much pleased with the improved face of the types cast at this foundry. In this respect they challenge competition with any we have seen.

THE CHOLERA.—We might as well be out of the world as out of the fashion, and therefore must say something on this universal topic. That the cholera is rapidly spreading over the country there can be no longer a doubt; and the only thing that remains to be done is to prepare for its reception. There appears to be no chance of escaping it by flying from its approach, and all that can be done as a preventive is to pay strict attention to cleanliness in person and habitation; temperance in meat and drink; entire abstinence from all green and indigestible fruit and other food; care-

fully avoiding exposure to the mid-day sun, and cool currents of air while warm; and above all, so far as it can be done, keeping the mind in a state of quietude.—This latter *prescription* we believe almost, if not entirely essential to escape from the cholera. Indeed we have little doubt that the Asiatic Cholera is nothing more than the common cholera morbus, aggravated by fear; and we believe that it may be and has been induced in persons and in places that would not have been affected by it, by the operation of dread alone. The next advice we have to offer, is, to pay no attention whatever to the remedies prescribed in the newspapers, but to consult a physician on the occurrence of the first symptom of the malady. We will take the liberty to say, however, to those who live at a distance from medical aid, that the first symptoms of the disease are slight heat and looseness of the bowels; these prevail sometimes two or three hours, and often a day or two, before the disease assumes its terrific form, and should be promptly attended to by the exhibition of the usual remedies for such complaints; but let no one debilitate his system by drenching with preventives—it is the best way to produce the disease. As to the nature of the disease, it is certainly not contagious, but seems to prevail in the air, and to seize upon such persons and places as are made congenial to it by their habits, fears, want of cleanliness, &c. You might as well attempt to keep the wind out of the city with bayonets, as the cholera by quarantines and non-intercourse regulations.

COTTAGE FLOWER GARDEN.

CALOPOGON PULCHERRA.—Pretty *Calopogon*, now in bloom.—This very pretty flower is scarcely known in our gardens, being, with thousands of others, "doomed to blush unseen" in the deep recesses of our swamps, and only disturbed by the careless tread of the woodcock shooter. It is one of the most beautiful of American plants—as far before the clarkia pulchella, so much talked about, as that is superior to chickweed. It grows in swampy places, and generally where there is a growth of moss on a gravelly bottom; but we have found it on pretty dry meadow bottom, and it easily adapts itself to any soil. It belongs to the 20th class and 1st order; there is but one species. The plant has but one leaf, which is plaited 8 to 12 inches long, and from 3-8 to 5-8 of an inch wide. The stem rises from 1 to 2 feet, very slender, flowers in a spike, of a beautifully delicate purple, from an inch to an inch and a half in diameter, and curiously formed, having five petals, and a bearded lip on the upper side, whence the name. Since we have had this flower in our collection, it has been admired more than any other of its class. It has a tuberous root about the size of a small hazel nut, variously formed. We have also found the *Pogonia ophioglossoides*, another pretty plant generally growing with it.

The *Scutellaria* (several species) are also beautiful plants, and the *Astragalus* of our dry gravelly hills, might well supersede many a plant that now occupies conspicuous places in our gardens. Nor should the humble pyrolas (winter greens) pass entirely unnoticed. There are two varieties, the flowers of which are exceedingly beautiful, and of exquisite perfume. The plant commonly called *pipissinary* is one of them. The other is often but very erroneously called *liverwort*. It has a round leaf, of the size of a dollar, and its color and texture resemble liverwort. Both of these latter plants are powerful tonics and astringents, and it is to one of the genus, (called winter-green in the north,) that Swain's Panacea is indebted for its pleasant aromatic flavor, and probably for some of its virtues.

Those who would prevent the effects of drought upon garden vegetables, should remember that ground often stirred resists the effects longest.

AGRICULTURE.

(From the New England Farmer.)

MASSACHUSETTS AGRICULTURAL SOCIETY.

ON THE BEST CULTIVATED FARMS.

Attleborough, East, Sept. 28, 1831.

BENJAMIN GUILD, Esq.

Dear Sir,—It is but a few days since I saw or knew of the premiums offered by the Massachusetts Agricultural Society, for the best cultivated farms; and a less number since I thought of offering mine. Not being in the habit of writing, I fear I shall make a bungling hand at it. I do not suppose that mine will compare with many in Massachusetts, where there have been thousands laid out; but believing that I have made considerable improvements within a few years, with small expense, I therefore offer my farm, which lies in the East parish of Attleborough, containing about three hundred acres of land, lying nearly square. The soil is variable as to quality; there are about twenty acres of old fields, worn out, lying at one corner; about fifty acres deep black loam, and nearly clear of stones; about thirty acres of meadow or low land; about one hundred acres of woodland lying upon one side; and another part of strong, moist, cold land, which never was ploughed, and might nearly all be made into excellent mowing land, but it is used as pasture.—My English mowing lies at the head of a small spring brook, and has something of the shape of a plate, except that there is one place for the water to pass off; and the meadow or low land lies on said brook, to where it enters Ten Mile river.

Ten hundred acres of this farm I purchased about ten years since, for which I paid five thousand dollars. The said farm was very much run out, having been let for a number of years. The first year I cut but three tons of English hay, that could be called good, on the farm, that I sold. Two or three of the last years, I suppose I have cut from forty to fifty tons yearly. The last year I kept an account of what I sold, which was about eighteen tons, which I put into a barn by itself; that I sold for sixteen dollars per ton, by carting it five miles to Pawtucket. The remainder of my English hay I put into another barn for my stock; and it was quite certain that I did not sell half of it. This year I think I have put into the same barn twenty tons, for fall, which filled a thirty by forty feet barn, when it was first put up. I put more than this into another barn, for my stock. Of said hay all but about two loads was cut on the said two hundred acres, and I have turned out about fifteen acres to pasture that were formerly mowed. The method I have taken has been to move fences and subdue hedges, plant but little and manure highly. I have made it a rule for five or six years past, to plant about four acres with potatoes, and get from one to two hundred bushels per acre; and four with corn, yielding about sixty bushels per acre, of shelled corn. I generally spread on about five cords of manure to the acre, and put about as much more in the hill. My hands have told me, sometimes, that I should spoil my potatoes by putting in so much.

But the greatest improvement I have made is in subduing fallow land, which was always run round as though it was worthless; and, indeed, it was, as it then lay, for it was in the way, lying in the middle of my mowing land and yielding nothing of any value. I began upon the upper side, (for it lay on a gentle descent) and ploughed about half an acre for experiment and drained it as well as I could, but the water was constantly issuing out of the ground on every part in our driest seasons. My neighbors told me it was labor lost; but I carried in considerable old hay and long manure, and laid it out for potatoes and planted them on it, and hoed them to subdue the ground, for we could not turn it over with the

plough, that it would not turn back. In the fall we gathered a fine crop of large excellent potatoes. I think I have learnt by experience, that blue or red potatoes are better suited to this soil than white ones.

I went on till the whole was subdued, and laid down to herds grass and Rhode Island hay, being about four acres; and now it produces from two to three tons of good hay per acre, yearly. There is about six or eight inches of soil or mud on the top, and we then come to a hard pan of gravel and clay.

I have generally sown, for a number of years, five or six acres of pasture land to winter rye, such as was suitable, and put on no manure. I only take off a crop, and let it lie for pasture; generally sowing on Rhode Island seed with the rye. Sometimes I have sown it on the snow in the spring, for experiment, but I do not know that it makes much difference. My winter rye is usually light, say six or seven bushels per acre.

I have sown down mowing land with spring rye, believing it to be much better than oats for the land and also for the grass. The seed will take much better for some reason; and that ground which is not suitable for rye, I sow only with hay seed. I put on manure only when I plant it. Spring rye is generally quite good, say from twelve to fifteen bushels per acre. I generally reserve a spot for round or English turnips, and sometimes plough a piece of sward after taking off the hay, where I intend to plant the next year, turning it over smooth and spreading on some manure; then harrowing it well with a light harrow, to cover the manure, but not harrowing up the sward; then sow the seed thinly and harrow it in; and sometimes raise a good crop very early in this way, say from one to two hundred bushels per acre. I also sow turnip seed on my manure that I dress my corn with in the hill, and raise my early turnips for the family, and sometimes a large quantity of large turnips for the cattle. I have also made a point of raising a number of bushels of ruta baga, for my table and cattle, which I think are very excellent for milk cows.

I have about sixty acres of English mowing, and I generally have from twelve to fifteen acres of it up to corn, potatoes, and spring grain. I plant none but this. I have ploughed all of it; but shall not think of ploughing the low lands mentioned, any oftener than I find it necessary; but shall spread manure every fall.

The hay consists of herds grass or timothy, red top, Rhode Island, and clover. I have a ditch out of a swamp, and can water almost all my mowing in the fore part of the season. I mow about thirty acres of meadow or low land, which I think cuts about thirty tons of hay or nearly, and is principally the common brook meadow grass. I have thrown the water over a part of it, which has made considerable improvement to quantity and quality of hay. I like to raise my own hay seed, and sow it; I think it does much better, than I can buy. I do not clean it; therefore, I cannot be particular as to quantity. I want but little Rhode Island or red top; but am not afraid of putting on too much herds grass or clover. If we do not put considerable clover seed on rich ground, the hay will be very coarse, and nearly worthless. I choose the early spring sowing and think it the best; but wait till the ground gets dry, if it is not till the fall. I have been troubled about low ground taking the seed; and have a number of times sown in the spring, after the land was laid down, on what sward there was, and it has done well. I have about a hundred and thirty acres of pasture land, about one half of which was never ploughed. One half the other I plough and sow to rye, as before mentioned; the other quarter has scarcely been ploughed these forty years, or since my recollection.

The number of apple trees on the farm is about five hundred, mostly in orchards. One orchard of about one hundred trees was set out about forty years ago. One of about one hundred trees, about twenty years ago. One of about two hundred trees about fifteen years

ago. The greatest number of them are natural fruit. About fifty grafts have been grafted occasionally; as opportunity offered, and some of them are hardly in bearing. To those trees we have done but very little, except trimming, and putting chip manure and old pumice around them, to keep the sward loose. I made about ninety barrels of cider last year, saved about ten barrels of excellent winter apples, and sold as many as thirty bushels of fall apples, and used a number of bushels in the family. As to making cider, my rule is to pick the apples as soon as I think them worth picking, and make them up into cider; and as soon as apples are ripe, shake and pick the rest, and put them into an apartment in the mill, so that they will not heat, and keep them till they are mellow, and then make them up, and see that the mill and press are clean and sweet. I grind them out in the afternoon, and let them lie in the trough, and on the press, till the next morning; then press the cider out, put it into clean casks, roll it into the cellar, place it where it is to stand, knock out the bung, let it work, and stop it again as soon as it is done.

I put the greater part into two hogheads. I like them best, and am very careful to keep them sweet. My rule is, as soon as the cider is out, to wash them clean and dry them, and put them in the cellar; and if they get foul, I have tried to cleanse them by setting a rag (dipped in brimstone) on fire and putting it into the barrel, then bung it up, and sweeten them in that way; but the better way is to throw them aside, and get more. I calculate to pick all my apples by the first of October.

I have another orchard that was set out two years ago last spring, of one hundred trees, all selected and of the best kinds of fruit. There are twenty-eight kinds. This orchard I have nursed and manured highly, and it looks thrifty. I wash the trees with soap and ley, mixed in equal quantities in the spring, which I think is far superior to any thing else I have ever used or heard of.

As to my house, it is twenty-eight by thirty-three feet, two stories high; with a kitchen, sixteen by sixteen; a cheese room, milk-room, and buttery, running out back; with a well-room, wood house, wagon-house; farmer's work-shop, thirty-three by sixteen; a tool-house, a corn barn, chaise-house and a cider-mill, adjoining the kitchen and nearly reaching the barn, which is thirty by seventy, with two barn floors. I can tie up twenty head of horn cattle, and put up four horses. There is a shed at one end, twelve by sixty; and a barn-yard adjoining, about five rods square (with a well in it) where I keep my oxen, cows and sheep, not letting them get loose through the winter.

I have another barn, already mentioned, where I keep my hay for market, which is thirty by forty; another barn, twenty by thirty, which I fill, barn floor and all, with my poorest hay; a shed adjoining, sixty by twelve, with a warm yard adjoining, where I keep my young cattle, and let them go to a spring in the lot near said barn, to drink. This yard I clean out in the spring, heaping up the old hay and manure as soon as the frost is out, and at planting time draw it out and manure my potatoes with it, there being about twenty loads. My other yard, where I keep my other stock, I clean out in the fall, then fodder my cattle in it all winter, then cart my green manure that was thrown out of the barns, and spread it all over the yard, and then cart in as many loads of loam and spread it over the manure, to keep it from drying up; then yard my cattle upon it all summer, ploughing and mixing it occasionally, out of this yard. I carted one hundred and nineteen half cord loads of excellent compost last fall, forty loads of which I put on my corn ground for spring; the other seventy-nine loads I put on my English mowing, and spread it.—This has been my method for a number of years, as to manure.

I have a hog-pen; also, walled in with a thick tight wall, about three rods square, the north corner

of which is dug into a side hill, at which there is a nest covered with flat stones; at the south corner of which there is a pair of bars, and a house to feed them. The northeast and northwest sides we can back a load up, and tip it over the wall into the pen. This I clean out in the spring. Last spring I carried out sixty half-cord loads, which I spread on my planting land. My method here is, as soon as I clean it, to cart in old hay and straw, then loam and green manure, and add to it in the summer any thing that will rot, such as bulrushes, brakes, and small whortleberry brush, which grow in our rocky pastures, and are regularly cut every other year, half-yearly, and with weeds which we throw in when at leisure. I also go to the sea-shore, which is fourteen miles, and get a few loads of sea-weed, which I think very excellent to mix with other materials, and cart some mud out of a pond-hole in the woods, which is a mile off. I keep four oxen constantly, and generally a pair of steers to work, five cows constantly, and about thirty-five head of young stock. I have always calculated to raise my own stock, and raise about eight or ten calves yearly, and keep them until they are three years old. I have calculated to fat and sell one hundred dollars worth of beef, yearly. I keep one horse, and about fifty sheep about one half-blooded merinos. The quantity of butter and cheese I can tell nothing about; we make little excepting what we use in the family.

My stock is the native breed, except seven years since I purchased a very fine bull; that came from New Hampshire, said to be of the Beckworth breed. I have ever since kept a bull descended from him, and have taken a premium on some of them at the Bristol County Society, also on some cows of the same breed.

As to my hogs, (I calculate to raise my own pigs,) they generally weigh about three hundred pounds apiece, and are usually six in number.

As to labor on the farm, I have a son about nineteen years old, and I have usually one hand seven months in the year, at twelve or thirteen dollars per month; also a boy and a number of hands in hay time. This year I hired about thirty days' work, at thirty dollars. I collected all my hay into barns and stacks before August. We work out our team nearly or quite enough to pay our help. We have not used any ardent spirits for three years, and get along much better than formerly when we did use it, for there is now no grumbling, as there was then, for want of more. We use cider, hop beer, hawthorn, sweetened water, and milk and water. I generally hire such help as have families, and want all their pay from the farm.

As to rotation of crops, I like to plant potatoes the first year, corn the second, and sow down the third year with spring rye, as early as the ground will permit. I sow nearly a bushel to the acre, then harrow, and roll it in with a good heavy roller.

I feed my stock in the fall with corn fodder, and good hay till cold weather comes, then with my poorest hay till spring, then with better. I give muck cows some roots in winter, such as turnips and potatoes, beginning in the fall and continuing them through the winter, lightly, as they will hold out. I never have any roots to sell, except to hired help, although we have probably some years raised nearly a thousand bushels.

To my oxen I give five or six ears of corn daily; and when I work them hard, a little meal.

My calves that I intend to raise, (which must be entirely red,) I have sometimes suffered to suck, and sometimes I have fed them with new milk, till they were weaned. But the better way, on the whole, in my opinion, is to take them from the cow at about five or six days old, and give them new milk a few times and then milk porridge once a day, and they will do very well without new milk; in a few weeks, a little dry meal is very excellent. I wean them usually at three months old.

I usually keep six hogs, and fat them principally on pumpkins and potatoes, boiling them together; I

have a kettle that will hold about three bushels; mixing them up with a little meal, adding more meal from time to time, till they are fat. I frequently give them a little green corn on the cob, for a change.

As to fattening cattle, I have no certain rule as to the age, but usually fat them young. I seldom keep cattle till they get on the decline. Some cattle will do very well till they are twelve years old, others fall younger; I usually fat them with grass and green stalks, and when they are done, I turn them off as quick as possible.

As to sheep, I have taken the first premium at the show in Bristol county; a number of times, on some of them. I let them run with the cattle in the winter; they pick out a good deal that the cattle will not eat. I give them a yard that they can run into, away from the cattle, where they usually lie. I also have a rack in that yard, made on purpose for them, set perpendicularly that the seed may not get into their wool. I feed them with English hay. I have, for some years, but not always, given them corn and turnips, through the winter. I think they never did better than they did last winter. I kept them as usual, but without provender, till about the middle of February; then I fed them in these racks with fine clover hay; and after they begin to lamb, give them some corn and turnips, as long as they would eat hay. I let them out of the yard as soon as the grass starts up a little in the spring. I think they do best. I generally have them lamb the first of April, when I can keep my neighbors' rams away from them. I wish to mention one thing, which I fear you will think pretty large story: I have a four years' old ewe sheep, (a cader) that never had a lamb; she is always fat, and never would eat any provender of any kind, and always goes with the young cattle, and lives on the poorest hay I cut. Last spring I sheared eleven and a half pounds of fine wool from her. An agent of a large woollen establishment saw her; and said he never saw any thing like her before; but this wool was two years old, not being sheared in 1830.

This rough draught was drawn in haste, and is quite imperfect. It is much longer than I expected when I began.

I am, dear sir, very respectfully, your obedient humble servant,
PETER THACHER.

P.S.—If I have any thing to boast in farming, I must acknowledge that I received it from the New England Farmer. I began with the second volume, and have since read it very attentively.

Bristol, ss. September 28, 1831.—Then personally appeared Peter Thacher, subscriber to the foregoing statement of facts and description of his farm, and the management of the same, and made oath that the same is true. NOAH CLAFLIN, Justice of Peace.

HORTICULTURE.

(From the Horticultural Register.)

CULTIVATION OF CELERY.

Celery, in its wild state, is found growing in marshy ground. When found in stagnant wet situations, the soil being sour, is less favourable to its growth; but where there is a frequent renewal of fresh water, it grows proportionably more vigorous.

In its cultivated state I have observed, that when planted in a strong soil, retentive of moisture, ("but upon an open sub-soil,") and the soil kept moist by fresh water, it always grows much more vigorously than when planted in a situation where the sub-soil is very wet, although the trenches in which it is planted are prepared alike, as to soil, in both situations. Where there is the advantage of a strong loam, as described, upon a favourable sub-soil, and the trenches are prepared as hereafter directed, and the plants treated in the manner stated, Celery may be grown so as to have the heads weighing from ten to twelve pounds each.

To have successive crops, it of course requires to be sown at different periods. For a crop to use from August, sow the first week in February; and for a crop to use from November, sow the first week in March. It however often happens that the smallest plants of the first-sown crop will answer instead of the March sowing.

The method I pursue in raising the plants, and in their subsequent culture, is as follows:—

The seed are sown in a box filled with light rich loam, the top soil very finely sifted, for the seeds readily to strike root into. After the seed is sown, the box is placed in a vinery, or pine-house, kept at from 65 to 70 degrees of heat. In so warm a situation, the soil at its surface is very liable to dry, and when the seeds have vegetated in part, drought destroys them; to prevent which it is necessary once or twice, or more, each day to sprinkle the surface with water of the temperature of the house, until the plants are up.

When the plants are about an inch high, the box is removed to a peach or green-house; and when two inches high, they are pricked out into a frame, placed upon a slight hot-bed, which had been made a week or ten days previous. The day before the plants are to be pricked out upon the bed, the surface is made even, and some hard turf about an inch thick is laid over the bed, the grass-side undermost, and beaten as firm as possible. This prepared sub-stratum prevents the roots from entering much into it, and thereby causes the plants to make tufts of fibres, which are very essential to the future progress of the plants. The tap-root is also checked, and generally prevents the plants from running whilst in that situation. Upon this prepared sub-stratum, two inches deep of well-rotted dung is spread, and the surface smoothed; then about an inch deep of finely-sifted rich soil is laid on, and the plants are pricked out at about four inches apart. All possible air is admitted to prevent their being drawn.

I have observed that when the prepared compost of dung and soil, which is laid upon the turf, is much deeper than above stated, a great proportion of the plants run, but they rarely do so, when the manure is good and as deep as stated, provided plenty of air and water be given.

When the plants are six or eight inches high, a piece of ground is prepared upon a border in a sunny situation; the soil is thrown out four inches deep, and turf is laid over the interior of the excavation, and prepared in other respects as directed for the hot-bed. When the dung is properly levelled, the plants are taken up, dividing the soil and manure with a knife, so as to have a square ball with each plant: they are then placed upon the dung at about eight inches apart. The spaces between the balls are filled up with rich soil. The plants are then well watered, to settle the soil about the roots.

When they are from twelve to eighteen inches high, they are removed with entire balls into the trenches, prepared in the following manner: the trenches are marked out five feet apart, centre from centre, and the soil is thrown out eight inches deep and twenty wide. The trenches are then filled up with the following compost: two parts of good rotten dung, and one part of stiff boggy soil, with bone dust sprinkled amongst it in a small proportion. The plants are then carefully removed, with balls entire, and placed in rows at eight inches apart, upon the compost. After the plants are placed, they are made firm in their places, by earthing them up with equal proportions of soil and manure.

The method of planting the Celery as high as directed, is very far preferable to the plan in general use, viz. of digging out a deep trench, and then after laying in manure, to dig it in with the sub-soil of the trench,—such soil in general being poor and cankerous, and very unfit for the growth of any thing. But not only have the roots, in the method I practise, the advantage of extending through the prepared compost in trenches, but of proceeding forward into the fertile soil of the surface of the garden.

The Celery is carthed up very frequently, doing a little at each time. The leaves of the plants are folded together, and soil drawn by the hand round each plant, to prevent it getting to the hearts, which if allowed to do, would prevent the leaves in the centre growing straight and free.

At the final carthing, the soil is brought to a point at the top of the ridge, and beat closely together, in order to shoot off wet as much as possible. This is more particularly requisite with crops to stand the winter, in order to prevent the plants from rotting.

When Celery of the largest size is desired, I find that to take ground-bones, bone-dust, or horn-shavings, and boil them, and pour the water to the roots of the plants, increases the size very much. In order to get the water to the roots, holes are made

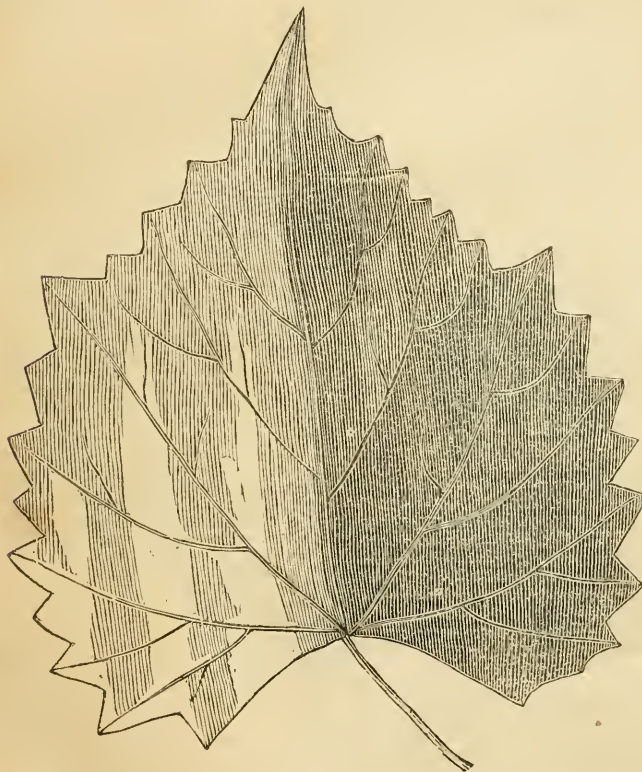
along the sides of the ridges with a pointed stake, at a foot apart. Water from the drainings of a dung-hill applied in the same manner, also materially assists the growth of the Celery.

If the water, either from the bones or manure, is applied by pouring it down the stems of the plants, it often injures the foliage and checks its growth.

The sort of Celery I find the best both for size and flavour, is Bailey's Solid Red Gigantic; next, the Large Solid Red.

The distance at which the Celery is planted apart, and the trouble in preparing and planting the plants, is far more than compensated by the increased size of the heads; and the weight of useable Celery in the mode I practise, is much greater upon the same extent of ground than can be produced in the customary manner.

JOSEPH HARRISON.



SCUPPERNONG GRAPE.

MR. SMITH: Richmond, Virginia, Oct. 16, 1892.

Much has been said and written about the grape known under the following names: Scuppernong, Hickman, Roanoke, and Carolina Muscadine. No satisfactory information, however, seems to have been given, and many are in doubt as to its peculiarities. It certainly differs widely from all the European varieties of the vine, and resembles but one indigenous kind. Its aspect is much that of the sloe, abounding in the lower part of this state; but there is the same difference between the scuppernong and the sloe, in the quality of the fruit, that you find between the wild crab and the golden pippin. The berry of the sloe

vine barely reaches the lip, but to be rejected as harsh and unpalatable. The fruit of the scuppernong abounds with the most delicious honey-like sweetness; its pulp readily dissolves in the mouth without leaving any *after-taste*, either austere or disagreeable. *Wood*, smooth and remarkably hard, rarely exhibiting that shaggy appearance of the bark usual with other vines—*Bark* of the old wood a light iron color, that of the young wood of a brighter hue, sprinkled with small specks of greyish white—*Leaf*, shaped as in the figure* above, color of the darkest green, highly glazed

* This representation was obtained by moistening

both above and below, tough and durable, remaining attached to the stem until the hardest frosts—*Berry*, round—color, greenish white—skin, thick, of a satinate texture, varied, by minute chocolate colored dots—flavor, honey-like—perfume, musky—congregated in bunches of two, three, four, five and six berries—the weight of the largest berry 80 grains, the smallest 40 grains.

The vine is a great grower and abundant bearer, producing its flowers the first week in June, (which have no odor) and ripening its fruit the last week in September. When perfectly mature, the fruit parts spontaneously from the vine.

In Carolina the berry is often red, or of a dark purple, bordering on black. This I have never seen.—There are but few vines here under culture, and they all produce such fruit as I have endeavored to describe to you. Yours, with sentiments of respect,
D. N. NORTON.

RURAL ECONOMY.

(From the Library of Useful Knowledge.)

THE MOUNTAIN SHEPHERD'S MANUAL.

PART FIRST.

ANATOMICAL OBSERVATIONS.

Organs of Digestion.

All animals which chew the cud have more than one stomach. The sheep has four stomachs. The food, after being prepared in the mouth, is carried directly down, by the gullet, to the first stomach, which lies upon the left side. This is the largest, and is generally called the *paunch*. On the inside it has a vast number of blunt-pointed eminences, which give it a general roughness, and extend the surface to several times the size of the paunch itself. The food, after remaining here a certain time, and being mixed and macerated with the fluids contained in the paunch, is forced up again into the mouth in small masses, and is farther prepared for digestion by chewing.—This is what is called chewing the *cud*, or *rumination*. After this operation, the food is again swallowed and sent into the second stomach; the gullet having an opening common to it and the first, and ending exactly where the two stomachs meet. There is also a smooth gutter with rising edges, which leads into the second stomach, thence to the third, and then to the fourth. Thus the animal has the power of directing the food into whichever stomach it pleases.

The second stomach, which is the lesser, is called the *bonnet*, or *king's hood*; and consists of a great number of cells on the internal surface, resembling a honeycomb. The food is here farther prepared, and is then pushed forward into the third stomach, or *many plies*, so called because the internal surface rises up into a great number of folds, which lie above one another.

From the third stomach the food passes into the fourth, called the *reid*, or *red*, which is the name it has received from its color. It resembles the human stomach. It is the fourth stomach of the calf, with the milk curdled in it, that is used for making rennet.

There are other animals which feed on the same substances with sheep, that have no such mechanism in their digestive organs. Horses, particularly, have only one stomach, in which the grass is macerated, and the nutritious part extracted; the rest is discharged, very little altered. From this difference in the structure of the stomachs of these creatures, a ruminating animal, or one with four stomachs, will be satisfied with one-third less of food, than another of equal bulk; and graziers are well acquainted with this fact. The reason is, that ruminating animals have

the leaf with water, then sprinkling it with the finest lamplack, afterwards pressing it with considerable force on a sheet of paper, which had been covered to a sufficient extent, with a mucilage of Gum Arabic.

many and strong digestive organs, all their food is fully prepared, and almost wholly converted into a nutritious fluid, which is mixed with the blood. But the stomach of a horse is not adapted to convert so much of the food into such a fluid, so that it requires a much greater quantity.

The intestines, or guts of sheep, are of considerable length in proportion to the bulk of the body. It is a general remark, that the length and capacity of the intestines are different in different animals, according to the nature of their food. All animals which live on vegetables have not only their small guts considerably longer, but also the large intestines more capacious, than those of such as prey on other animals. The reason of this seems to be, that as animal food is not only more easily reduced into the nutritious fluid called *chyle*, but more prone to putrefaction, a long retention of it might be followed by the worst effects; therefore, such creatures as subsist on animal food require shorter and less capacious intestinal canals than those which live on vegetables, which, being less capable of being dissolved and converted into substance proper to form animal matter, require that the animals which feed on them exclusively should be provided with a long and spacious intestinal canal to retard the food in its passage that it may be more completely changed. It is not observed that lambs or calves ruminate while they feed on milk alone, which descends immediately into the fourth stomach, without stopping in any of the first three.—Chewing the cud does not take place till after the animal has eaten a considerable quantity, when it lies down, if it can do so conveniently, and then begins to ruminate, though the operation will also take place when the animal is standing. In the action, a ball is seen to rise quickly from the stomach to the mouth; this is chewed very accurately, and is then swallowed, when another ball is forced up and chewed, and so on till the whole of the food which the animal has eaten has undergone the operation.

After the prepared food leaves the stomach, it meets with the bile, which is prepared and secreted by the liver, in the hollow of which the gall bladder is placed to receive it. The *pancreas* or sweetbread, and the *spleen*, are organs also subservient to the process of digestion. As the food converted into *chyle* passes along the guts, it is absorbed by vessels opening into them for that purpose, and carried by them into the blood. The guts have a constant motion, and a muscular power, by which the fluid is carried through all their windings, and they are kept from being entangled by the membrane called the *mesentery*, or web.—After having been deprived of all its nutritious parts, the food becomes reduced into excrement, which is expelled by an effort occasioned by a feeling excited by the matter having been brought to a state rendering it dangerous to be retained.

CONTENTS OF THE CHEST.

The cavity of the chest, or *thorax*, as it is named by anatomists, is separated from the *abdomen*, or lower part of the belly, by a strong muscle called the *diaphragm*, which is spread across the inside of the body. The chest contains the heart, and large blood-vessels, and the lungs. The structure of the heart in quadrupeds much resembles that of man. It is enclosed in a firm bag called the *pericardium*, from its surrounding the heart. The shape of the heart is conical, and is placed in a line with the breast-bone.—It is divided within into four distinct cavities, which either communicate with one another, or have openings leading from them into the blood vessels. Two of these cavities, the right and left *auricles*, are situated at the base of the heart, and receive the blood from the veins, and propel it into the cavities called the *ventricles*, from which the blood is forced into the arteries. The veins collect the blood from all parts of the body, and before they arrive at the heart, they are reduced to two large trunks, and terminate in the right auricle. From the right auricle the blood is thrown by the action of the heart into the right ventricle, and

from this it is propelled through the pulmonary artery, which conveys it to the lungs, through which it is circulated, and undergoes important changes produced by breathing. Changed in its qualities, the blood is returned by veins called the pulmonary veins into the left auricle, and from that it goes into the left ventricle, from which it is forced into a great artery, named the *aorta*, which by means of numerous branches distributes the blood over the whole body.

There are, therefore, two sets of blood vessels to be found in quadrupeds, the same as in man, the *arteries* and *veins*. The veins begin at the termination of the arteries, and convey the blood, after it has distributed nourishment to every part of the body, back to the heart, whence it is again distributed after receiving from the intestines and lungs a supply of nourishing matter. This is what is called the *circulation* of the blood, and the rapidity with which it goes on varies much in different animals, and in different states of health of the same animal.

The *arteries* are distinguished from the *veins* by their pulsation; for the impulse of the motion (beating) of the left ventricle of the heart is communicated to the large trunks of the arteries. But the motion of the blood is gradually retarded as it passes into the numerous branches towards their terminations; and before it enters the minute branches of the veins at their small extremities, the pulse ceases. The blood flows in the arteries from the large to the small extremities; but in the veins it is the reverse, flowing from the extremities into larger trunks, like small streams into large rivers. The principal trunks of the arteries are contained in the centre of the body, where they are least exposed to danger, and derive support and defence from the bones along which they pass.—The largest go to the different organs contained in the great cavities of the body; the next in size, to the muscles and skin; and the smallest, to the bones.—Another singular provision for the safety of the arteries is, that they always pass along a joint on the side towards which it bends. Were they to pass on the opposite side, they would be in continual danger of being ruptured by the bending of the joints overstretching them. In a few places the branches become so very minute, as altogether to exclude the red particles of the blood, carrying only a colorless fluid. In a dead animal, the arteries are distinguished from the veins by their whiteness, and the thickness of their casts, those of the veins being much thinner, and of a bluish color. The arteries are found for the most part empty in a dead animal.

THE LUNGS.

With the circulation of the blood, the function of respiration or breathing is immediately and necessarily connected. This function consists in inhaling the air of the atmosphere by means of certain organs, and then expelling it. The organs destined for this office are called *lungs*, or *lights*. It has been mentioned, that a vessel called the pulmonary (or lung) artery arises from the right ventricle of the heart, and distributes the blood through the lungs. The obstruction caused by the blood forces the animal to dilate the lungs, by which act the air is admitted, through the mouth and nostrils, by the windpipe and its branches; and the blood absorbing a portion of the air, an uneasy feeling causes an exertion to be made which expels the remainder of the air. For this operation the frame of the chest is furnished with muscles, by the action of which, that cavity and the lungs are alternately dilated and contracted.

The blood by passing thus through the lungs, and absorbing a portion of their air, undergoes changes necessary to life; all animals dying in places from which the air is excluded. Being changed, the blood is carried by the pulmonary veins back to the heart, and, as has been noticed, is from thence circulated over the whole body. The blood, when it passes through the arteries, is of a florid red color; but when it returns by the veins, it is of a dark hue. It has this last appearance when it is conveyed into the lungs, from which it is

sucs with its color revived. Hence, it is evident that it receives something from the air in the lungs. When air respired from the lungs is chemically examined, it is found to have lost that portion which is called *oxygen*, and sometimes vital air, from its being absorbed by the blood. No animal can live in air from which oxygen has been abstracted; and from this arises the danger in keeping animals crowded in close buildings.

The lungs occupy by far the greatest part of the cavity of the chest, and are divided into different portions named *lobes*. They are soft, spongy masses, composed chiefly of an infinite number of cells scarcely perceptible to the naked eye, which all freely communicate with each other and with the windpipe. Into these cells the air passes during inspiration.

THE BRAIN AND NERVES.

The brain is a soft pulpy substance filling the cavity of the skull. Besides the covering of skin and bone, it has particular membranes surrounding it. It is proportionally smaller in all quadrupeds than in man. It is divided into two portions, the outermost being very soft, and of a reddish grey color, and is called the *cortical* or barky-looking part; the other is the *medullary* portion, which is white, and of a firmer consistence. The brain is supplied with numerous branches of blood-vessels. Its delicate structure cannot be described or known without actual inspection. There are a variety of parts to be observed in it, to which anatomists have given names; and many of which have functions, a knowledge of which is increasing, and is likely to prove highly beneficial in the management, both of man and of the lower animals. There are four cavities in the brain called *ventricles*, irregularly shaped, and situated in the medullary portion. They are deserving of particular notice, as their surfaces are kept constantly moist by a fluid, which disease sometimes causes to be collected in too great quantities, and thus forms one species of the disease called *sturdy*.

The nerves pass into the brain. They have the appearance of white cords, and, like the blood-vessels, are distributed over every part of the body. Many of them are connected with the spinal marrow, which is the nervous mass contained within the back-bone, and is connected with the brain. The nerves and brain form the medium of communication between the external world, and the mind, of which the brain is the peculiar organ. In the same cords are nerves of feeling, and nerves of motion, and those probably of other functions. When a nerve is stimulated, the muscle connected with it is convulsed; when it is compressed or cut through, the muscle loses all power, or is palsied. The action of some of the muscles depends on the will of the animal, and is called voluntary action; others are excited by internal power, and the action is then termed involuntary. On the first depends the motions given to various parts of the body, and the power to change position and place; on the second depends the circulation of the blood, respiration, digestion, the motion of the intestines, and other actions necessary to life.

THE TEETH.

The age of a sheep may be known by examining the front teeth. They are eight in number, and appear during the first year of all small size. In the second year, the two middle ones fall out, and their place is supplied by two new teeth, which are easily distinguished by their being of a larger size. In the third year, two other small teeth, one from each side, drop out and are replaced by two large ones, so that there are now four large teeth in the middle, and two pointed ones on each side. In the fourth year, the large teeth are six in number, and only two small ones remain, one at each end of the range. In the fifth year, the remaining small teeth are lost, and the whole front teeth are large. In the sixth year, the whole begin to be worn; and in the seventh, sometimes sooner, some fall out, or are broken.

WOOL.

Lucky Hit Farm, near White Post,
 MR. SMITH: *Frederick Co. Va. June 20th, 1832.*

You will readily perceive by the manner of the following letter* to a gentleman in the wide west, that it was not originally intended for publication, but merely to comply with the wishes of a fellow citizen, who required certain information before he commenced the establishment of a stock farm. The queries he has propounded, are exceedingly interesting, and I think well calculated to elicit much useful experience, and information on the subject. They are offered with the view of bringing out the special information which many of our most intelligent farmers must possess on the various points suggested—it may not probably be expected that any one man will give a full and satisfactory experience on all. In the progress of this feeble attempt in reply to the queries, it occurred to me that it would be a good opportunity, with the loan of your aid and patience, to endeavour to excite a general interest in their behalf—my mite shall be contributed with pleasure, as I am able, and if you will be so good as to accept it, will be a means of relieving me of a burden I am unequal to, (from a want of health, &c.) the special, full and particular reply, to general and individual points, in relation to the breeding of sheep, and cattle, so often solicited—nor do I say this with a view of lessening an interesting correspondence with agriculturists, but the rather as an apology for not doing all I have anxiously wished to do. It would have been very desirable some months past to have afforded the information to correspondents now attempted, but it is hoped they will receive a bountiful interest from the experienced contributions of others. It is not surprising that the subject, particularly of wool should have become so very exciting since it rapid extension, employs an interest pervading a great majority of our country—and because on the other hand that an awful portion of our southern population are deeply interested in the introduction of foreign, cheap, coarse wools. Has not the time actually arrived when prudence at least suggests the expediency of placing it on a more accurate and firm foundation. Concession being the original basis of our Union and subsequent prosperity, must continue to exert its happy influence on our onward march, if we expect, and duly estimate domestic concord as the bond of our strength and union, and the only security for our peace and republican existence. Those who provide for an immense coloured population, if they cannot be persuaded that the great majority of them are able to provide better clothing on their own farms, than will be fabricated in the mixture of the miserable foreign wools with our excellent cotton, prefer a cheaper material than we can afford to raise, which is probably at twenty cents per pound the lowest—nor will the wool growers of our own country in all probability the only sufferers to be, meet with a greater loss, by the equal competition than is due to concession, in the relative situation of our more southern brethren.

We must, by skill and industry, improve the article, make it the very best of its kind, and thereby insure a living price under the worst circumstances.

We are too far advanced in our happy institutions, and too fortunate under our genial and varied climate to go back again to the raising of miserable animals producing any thing but wool—Even our servile population will find it vastly more comfortable, and cheaper in the end, to wear clothing from wool of our own raising at twenty cents, than from foreign wool, or hair at eight or ten.—It has been a well known habit with some Virginia farmers, to prefer giving a good home manufactured coat to their labourers once in two years; than a foreign fabric every year, this fact considered in its bearings

is more than we dare undertake.—But this limited opinion we urge at least, that as a proud and humane people we should admit of no clothing for our coloured labouring class, when wool is a part that does not admit of a due share of the felting property. Would that we were a little world of brethren kindly conceding one to another “in brotherly love preferring one another,” and improving our own resources, with a judicious use of foreign commerce, until our institutions, through their strength and virtuous principles, become an example to the world worthy of imitation. Pardon dear sir, this presumptuous departure from our direct profession. Very resp. R. K. M.

(From the Lexington (Va.) Union.)

SILK.

We were shown a few days ago a number of skeins of sewing Silk, of every variety of colour, manufactured in this county, by two young ladies, Miss Mary Jane Greenlee, and Miss Mary Ann McCluer—which, in every respect, are equal to any foreign silk we have ever seen. Our attention was particularly called to a skein of most beautiful orange, and we were informed that it was dyed by a new ingredient, which suggested itself by accident. The dye used was the extract of the Sanguinaria Canadensis (or Puccoon or Blood root) and vinegar. The color was afterwards set with alum, and is ascertained to be as permanent as it is beautiful. What is it that the skill and ingenuity of our citizens cannot accomplish as well as foreigners?

MISCELLANEOUS.

BLIND STAGGERS IN HOGS AND HORSES.

MR. SMITH: *Norfolk County, (Geo.) June, 1832.*

I send you a collection of facts, such as I have seen and heard, with the inferences I have drawn from them; if they should appear to you probable, or even possible, I pray you give them an insertion in the Farmer; perhaps some other person may add to them. I should like, if they are correct, that others should be acquainted with them; if incorrect, I should like to be convinced they are.

Some time ago I purchased, I think, the finest sow and pigs I ever saw. She raised her pigs, and had another litter of two or three weeks old, when one of her ears was cut off, tolerably close; the other ear not marked. On Sunday, the 6th of May, I let her and her pigs in the horse lot to eat some loose oats; we had a very rainy spell for some time. Not long after I turned her in the lot it rained very hard; the pigs escaped through the fence and ran to their bed. I saw the old sow, in the hardest of the rain, endeavoring to get out at the bars to follow them; when the rain ceased I went and let her out; she at that time appeared well. On Monday when I came home at midday, my old sow was eating an ear of corn at the yard gate; she attracted my attention from the singularity of her appearance; her head was turned to one side. I rode up to drive her; instead of running away, she ran round and round my horse, until she fell.—By this time my boy came up, and told me she came up apparently well, but suddenly began to go round and round, and that he had thrown her an ear of corn to see if she would eat; that he thought she had something in her ear. I remained some time examining her; when an ear of corn was thrown to her she would make many attempts to eat it before she could effect her purpose; going round, and attempting to bite the corn as she passed. When, however, she did succeed in getting it, she would remain still a few moments, but as soon as she was made to move she would again begin to go round. I now had her caught, cut off a piece of each ear, and poured her ears full of castor oil. She appeared perfectly deaf, and I did think her blind, as she would run against the fence,

trees, &c.; but as she appeared to see me when I approached her, I believe she saw but could not avoid such feelings. She got worse very fast, going round, and falling, &c. She had symptoms so exactly resembling the blind staggers in horses, that a description of one would answer for the other. As I have never seen a horse recover from the staggers, and as this appeared to be the same disease, I had her driven some distance to die, for I thought death certain; in the evening, however, she came up, still going round, but able to remain still while eating longer. Next day she was still better, but still going round; she, however, continued to mien, and recovered.

As Monday was a day when many of the farmers were in town, I went in the evening to make inquiry about the disease. I was surprised to find that this disease that I had never seen or heard of, was not very uncommon. I inquired of many old planters;—the accounts I received were so near alike, that to give the statements of one, will convey all the information I received. Some aged planter said he had often seen it; it always occurred after hard rains in the spring; it was caused by rain getting in the ears; that when one ear only had water in it the hog would either hold the head on one side or turn round; if he only held the head on one side, he would be a long time lean, and could not be fattened for a year or so, but get well; if they turned round they always died, some soon, but some would linger a long time; but if both ears had water in them, they would hold the head up, and go more straight forward; they would always die. He called it the blind staggers; knew no remedy.

Another wealthy planter, whose long life, great experience, and accurate observation, has made his mind, as it were, a store house of facts, to which we could seldom apply without receiving pleasure and instruction, gave this statement: He had seen his hogs affected with the blind staggers often; it always occurred after hard rains; they always died, but some lingered some time. They always went round and round; had tried many remedies, but none proved useful; that it was caused by water getting in the ears; that it exactly resembled the blind staggers in horses. He had taken more notice of the disease, on account of the following circumstance: Many years ago, a poor man begged him to let him plant corn in one of his distant fields; he told the man he would be welcome, but the fence was bad, and he would injure the neighbors' hogs.—The man promised he would not—he let him the field. Bye and bye, when the corn was ripe, hogs began to break in. He saw the man catch the hogs and urinate in their ears, and then stop it up with clay; that the hogs would run home immediately and die with the staggers, just as when rain got in their ears; that he urinated in a number of hogs' ears, all of which suffered in this way, before he knew what effect it would have; he then stopped him; that there was no difference in the effect produced by the urine and by rain getting in the ears.

Another old man said, he had seen the blind staggers in hogs; it occurred after hard rains; they would not always die, but it was best to kill them as soon as it was discovered. If they recovered they would not fatten for a year or so, and took more to feed them than they were worth.

On Monday night we had as hard a rain as I ever saw. On Tuesday morning I left home to go thirty miles. A few miles from home, I saw a large sow on the road, exactly like mine. I chased her on my horse; she would try to run away, but could not; she would run round and round my horse. I went up to the house and inquired about her; the man said she was well the night before, and came up in that way in the morning; that he did not know what was the matter with her. I overtook an old gentleman travelling; we rode together, and came up to a hog in the road; she would attempt to run off, but would turn round, fall into a ditch, get out, turn round in the road, and fall into the ditch again. Thus she continued going

* The letter referred to will be published hereafter.

round, and falling into the ditch every time. The old man, without my making particular inquiries, gave me this statement: his father was a hog raiser, and kept a great many hogs; he had often heard him speak of the disease, but as his father had learned him a sure remedy he had never had it in his hogs; he had seen it but knew nothing of it himself; that his father said, he once had a neighbor who marked his hogs, so as to cut off nearly the whole of the ears; that he was supposed, in this way, to alter other people's marks into his, but that he never gained by it; for in the spring when the season was rainy, water got in his hogs' ears and nearly killed them all; that he never marked his hogs, nor his father before him; this was a certain preventive of the staggers.

I passed a country store where a number of persons were collected, and stopped to inquire of the old men. One old gentleman of intelligence gave this statement: in hard rains, water got in the ears of hogs that were much bitten on the ears by dogs, or that were marked by cutting off the ears too freely; that he never lost his hogs; he poured cow foot oil in the ears; they got well, but would not fatten that year; that an old man taught him how to cure it; that if persons would only take off a little of the ear in marking, they would never have the disease. This, I believe, includes all that I could gather by inquiry, from a great many persons; from all of which no doubt is left in my mind but that the disease is in reality produced from hogs getting water in their ears.

Now let us notice the blind staggers in horses.—All who have been on horse back, in hard rains, must have noticed, that horses dread them very much.—Free horses require the spur to urge them on, when facing a beating rain. Why is it not as probable that his own knowledge tells him there is danger in it, as well as that instinct makes him dread the gad fly for fear of bots, as many contend?

I was once fording a river, my horse stumbled and went in the water over head and ears. It appeared to make him frantic; he began to shake his head and leap, then to turn round and round. With difficulty I got him out of the river; he then dashed forward, paying no attention to the road, logs, or any thing else. Finding the bridle had no effect on him, and that I might be killed by remaining on him, I let go all hold, and tumbled off; he ran home. He was not sick afterwards; but did water in his ear thus affect him?—I was once coming home a severe storm threatened; I rode very hard to escape; my horse was covered with sweat; when near home, the rain fell very hard. A day or so afterwards, my horse had the blind staggers and died. I attributed it to his getting wet when warm; but was it from rain getting in his ears? I have never known an instance of a town horse that was never exposed to hard rains, having the blind staggers.

I formerly kept a saddle horse, to be rested at a plantation about five miles from home. I had no stables, and my horses were exposed to the weather.—The season was very wet, and the rains hard. I rode to the plantation; my horses were all in good order, and mostly young. I left my horse and took this rested horse to ride home. When I got on him, instead of dashing forward as usual, he went with his head down and dull. By the time I was half way home it took all my strength pulling one rein, to keep him in the road. He constantly inclined to turn out to the left hand. He was very spirited, but whip and spur could scarcely force him on. With difficulty I got him home; when let loose he began to go round and round; many things were done for him, but he died. The next day I received news that my best horse at the plantation had the staggers. I went there, but he was dead. While looking at the horses eating in a trough, I saw one make a sudden start, half fall and recover. I did think a snake in the trough must have bit him; he began to go round, and died that day. In about ten days, I lost nine

horses, most of them lived several days, but all went round and round till they died. During this time, a number of horses in the neighborhood died in the same way; mine were bled very freely, but nothing appeared to have any effect. An old gentleman was sent for from another county, who professed to be able to cure it. I sent for him also to see my horses; he made a gimblet hole in the forehead; he supposed it went into the brain; but it only went into the nostril; it, however, did no good, every horse attacked with it died. I went and staid with my horses, and did, I thought, all that could be done. My other horses were all bled, and taken better care of, and escaped. I had occasion to visit Mr. Moss' plantation on professional business; he had just hauled away the thirteenth horse he had lost; he described the disease just as mine had it. Mr. Moss' plantation was newly settled; he had no stables, and like my horses his were exposed to the rain. Whether other men who lost horses had stables or not, I do not now know—but did my horses and Mr. Moss' die with staggers, from rain getting in their ears?

Now, from what I have said, is there any probability, or even possibility, that this fatal disease in horses, the blind staggers, can be produced by water in the ears? I have no doubt this is the cause of it in hogs. Whoever has seen it in a hog, must have noticed how precisely similar the symptoms are. If it should produce such an effect in hogs, why not in horses also? I always thought that in the horse it was an inflammation of the brain; but to have bled, as freely as I have, in several cases of simple inflammation, without the smallest effect, is almost incredible. I have examined the brains of horses; there certainly was the appearance of inflammation, but not sufficient to satisfy me that this was the only cause of so fatal and violent a disease. Why does not inflammation of the brain in man and other animals, produce such symptoms?

When I was a small boy, I remember to have seen several horses with a circle of white hair round the ears. This was said to have been from filling their ears with garlic; after squeezing the juice in the ear, and tying a string round to retain it there. Did these old folks mistake some other disease for the staggers; was it milder then than now, or did this remedy cure it? If it was the staggers, such as we now have, they cured it. I am certain I have seen a dozen horses with these circles round their ears. Why it was used I do not know; I placed no confidence in its effects. I have never used it, nor seen it used; nor have I ever seen a horse recover from the staggers. Did they, in old times, consider the ears involved in this disease, and prescribe garlic with that view, and thereby effect what we have not been able to without it?—In violent inflammations and pains in the human ear, there is no local application equal to garlic juice.

It may be said if this cause produced the disease, why do horses, that are out in pastures, so seldom (if ever) have it, or why horses that are made to swim, and often have their heads plunged under water, do not have staggers? Every person, who has ever noticed, must have observed, that the horse when exposed to rain and not confined, turns his rump against the wind; and as the wind changes so he turns to oppose it. This, aided with the form of his ears, is an effectual preventive to water getting in. On the contrary, when he is rode or driven in a storm, it is for the most part rapid, and he has not this choice of position to prevent rain getting in his ears. When confined in horse lots, it would be common to bring them in before or during a storm. This would be a time to feed, standing by the trough, fighting, &c. would prevent using the caution of position; and for those that have been plunged under water, all who have been in the habit of swimming, may have noticed, that it is only occasionally that water gets in the ears, and some persons are never troubled in that way. It is easy to understand, that when the ear is under water, the air thus confined in it, is a preventive to

its getting in. They will also recollect, that when water gets in the ear by turning the ear down, &c. which horses do not do, it is even then often difficult to get it out.

It may appear almost impossible that water in a horse's ear should produce such an effect; so, indeed, it seems to myself; but as the most careful inquiry I could make has satisfied me it does have this effect on hogs, I now suggest the inquiry—Is it probable, or even possible, for it to have such an effect on horses also? Should I have another horse affected with the disease, I would treat him in this way: first copious bleeding, then a large dose of laudanum, then oil of turpentine, garlic juice, or something of the kind, poured in his ears, mixed with laudanum; and cloths dipped in hot water and applied to his head, and a part of his neck, until they blistered largely. If he died, I would make a minute and careful dissection of the ears, to see if I could discover any causes of the disease there. Vale, ROBERT R. HARDEN.

(From the Arcana of Science.)

NATIVE COUNTRY OF MAIZE, OR INDIAN CORN.

This grain, so important to the agricultural interests of America, appears to be of uncertain origin.—Fuchs very early maintained that it came from the East; and Matholi affirmed that it was from America. Regnier and Gregory have presented fresh arguments in favor of its Eastern origin. Among them is the name by which it has long been known in Europe: *Blé de Turquie*; and varieties, it is said, have been brought from the Isle of France, or from China. Moreau de Jonnes, on the contrary, has recently maintained, in a memoir read before the Academy of Science, that its origin was in America. The name *Blé de Turquie*, no more proves it to be of Turkish origin, than the name of the Italian Poplar proves that the tree grew wild in Italy. It can only signify that it spread from Turkey into the neighboring countries. Its general cultivation in Southern Europe, and the production of some new varieties, proves nothing with regard to the country of the species. In favor of its American origin, is the fact that it was found in a state of cultivation in every place where the first navigators landed. In Mexico, according to Hernandez; and in Brazil, according to Zeri; and that in the various countries it had proper names, such as *Maize, Flacoli*, &c. While, in the Old World, its names were either all of American origin, or names of the neighboring region, whence it was derived; and that, immediately after the discovery of America, it was spread rapidly in the Old World, and soon became common, a fact not reconcilable with the idea of its former existence there. To these proofs, Aug. de Saint Hilaire has added another. He has received from M. de Larranaga, of Monte Video, a new variety of Maize, distinguished by the name of *Tunica*; because instead of having the grains naked, they are entirely covered by the glumes. This variety is from Paraguay, where it is cultivated by the Guaycurus Indians, a people in the lowest scale of civilization; and where, according to the direct testimony of one of them, it grows in the humid forests as a native production.

(From the Genesee Farmer.)

TO PRESERVE BUTTER FRESH.

A writer in the Boston Centinel states, that when butter comes quick, you must knead it and knead it, until you exclude all the buttermilk, and when you have done so, pack it down in a stone crock, and seal it up air tight, and place it in a cool place, and it will remain sweet any length of time, without a particle of nitric or common salt. It is worth while to try it.

"Beware of little expenses; a small leak will sink a great ship."

FOREIGN MARKETS.

LIVERPOOL, May 19.

Our Cotton Market in the early part of the week continued dull, but within the last day or two the demand has improved, and the prices of American have recovered 1d per lb.; other kinds remain as last quoted.

CORN EXCHANGE, May 22.

The supplies coastwise and from Ireland this week are light, and the only import from abroad is 4,000 bbls. Flour from Philadelphia. We have again an export of 1,868 quarters of Wheat to France, and upwards of 1,500 bbls. Flour.

Our market to day, was well attended by country buyers, and a more extensive business done than of late, on speculation, as well as for consumption.—Fine wheat was in good demand, at an improvement on last week's prices of 1d to 2d per 10 lbs.

May 23.—Fair business doing to-day—at about the same prices as on yesterday.

COTTON MARKET, May 23.

There is still a fair steady demand for cotton. The sales yesterday and to-day being about 2000 bags each day, without any alteration in prices. The import this week is great.

LONDON, May 22.

The return of Earl Grey to office with every prospect of carrying the reform bill, has greatly restored confidence, and we look to a general improvement in the demand for all the great articles of home consumption. Our Corn market was abundantly supplied yesterday, and the best qualities of Wheat declined 1s per quarter. Very little inquiry for bonded Grain or Flour: the export of Wheat for the continent having greatly diminished. The duty on grain is reduced to 25s 8d per quarter, and on flour to 15s 3d per barrel.

Prices Current in New York, June 30.

Beeswax, yellow 18 a 20. Cotton, New Orleans. 10 1/2 a 13; Upland, 8 1/2 a 11; Alabama, 9 a 11 1/2. Cotton Bagging, 11emp, yd. 14 1/2; Flax 13 a 14 1/2; Flax, American, 7 a 8. Flaxseed, 7 bush, clean —; rough —; Flour, N. York, bbl 5.75 a —; Canal, 5.75 a 6.00; Balt. 11wd-st. 6.50 a —; Rh'd. city mills — a —; country, 5.87 a —; Alexandria, 6.37 a 6.62; Fredericksburg 5.75 a —; Petersgr. 5.87 a —; Rye Flour, 4.57 a —; Indian Meal, per bbl. 3.25 a — per hhd; 16.00 a —; Grain, Wheat, North, — a —; Vir. — a —; Rye, North, 80 a 84; Corn, Yel. Nor. 66 a 70; Barley, — a —; Oats, Sth. and North, 42 a 48 Peas, white, dry, 7 bu. 5 Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess. 9.50 a 10.75; prime 5.37 1/2 a 6.00 cargo — a —; Lard, 7 1/2 a 8 1/2; Pork, mess, bbl. 12.75 a 14.00; prime 10.25 a 10 8 1/2.

VALUABLE COW AND CALF FOR SALE.

A COW, six years old, with a young BULL CALF, of the celebrated Teeswater and Holderness Breeds, will be sold cheap if immediate application be made. The ancestors of these animals, (a full bred Holderness Bull, and two full bred Teeswater Heifers) were brought to this country by Richard Parkinson, of Doncaster, (England) and their progeny have been kept unmixed to the present time. This cross is said to be the origin of the Short Horn Durham Cattle. The breeder of the Cow and Calf, (in whose possession the breed has been since their arrival from England), prefers this race, as milkers, to any other. The Calf is a fine formed animal two months old. Apply to I. I. Hitchcock at the Office of the American Farmer.

June 1.

BULL CALF FOR SALE.

An extraordinary Fine Bull Calf, which weighed at six days old one hundred and thirty pounds,—grand sire Col. Powell's Bull Farmer; granddam a Holstein Cow, which gave Thirty Quarts of milk per day for many weeks after having had a Calf, and an average of Twenty Quarts of milk per day the year round; sire a half blood Durham. The Calf is handsomely marked, and can be delivered in Philadelphia at six weeks old. Price \$30. Apply if by letter (post paid) to Samuel Williams, Hilton Farm, Front st. road, near Philadelphia.

TURNIP SEEDS.

As the season for sowing Turnips is at hand, we offer for sale at the American Farmer Office and Seed Store, the following choice kinds of Seeds, which may be relied on as fresh and genuine, viz.

EARLY DUTCH, WHITE FLAT
EARLY WHITE DUTCH, RED TOP
GARDEN STONE, YELLOW FLAT,
YELLOW ABERDEEN, RUTA BAGA,
LARGE NORFOLK FIELD, YELLOW BULLOCK.

Also the following choice PUMPKIN SEEDS:
Connecticut Field, or Northern; Mammoth; Pennsylvania Field, and Cushaw

DURHAM SHORT HORN BULL CALF.

A full blood improved Durham Short Horn Bull Calf, by Gloucester, out of a first rate thorough bred Cow, four months old, well formed, of good size and points, for sale by the Editor of the American Farmer. Price, if immediately taken, \$150. Apply to I. I. Hitchcock, office of the American Farmer.

AGRICULTURAL IMPLEMENTS AND FRESH GARDEN SEEDS.

The subscriber offers at his store and manufactory, No. 36 Pratt street, between Hanover and Charles streets, a great variety of AGRICULTURAL IMPLEMENTS, consisting of his Patent Cylindrical STRAW CUTTERS; (Ipsden Davis' Patent) PLOUGHS, with cast and wrought shares, and Castings for the same to supply those worn out; Substratum and Shovel Ploughs; Harrows; Robbin's Patent Corn Planter; Corn Cultivators, Corn Shellers; Wheat Fans; Wire Safes, Hay and Manure Forks, by the single or dozen; Grass and Grain Scythes; Grain Cradles; Hay Rakes, Mattoes; Picks and Grubbing Hoes; Weeding and Hilling Hoes. A variety of Garden and Horticultural TOOLS, &c. &c. Those articles manufactured by himself special pains have been taken to procure the best materials and to have the work executed in the best manner.

Also, a great variety of GARDEN SEEDS, both European and American, and all of last year's growth, embracing a great variety of Beans, Cabbages, Radishes, late Peas, Bene Seed, &c. &c. And the following FIELD SEEDS, viz: Tall Meadow Oat Grass; Lucerne, of Prime Quality; Mangle Wurtzel, Ruta Baga; Large Yellow Pumpkin, by the quart or bushel; and White Italian Mulberry SEED, of prime quality.

Just received from Europe a supply of FRESH LUCERNE Seed of prime quality, which will be sold at market price; and also a quantity of White Italian Mulberry Seed fresh and of fine quality, at 50 cents per ounce.

J. S. EASTMAN.



CORN CULTIVATORS, HARVEST TOOLS, &c.

The subscribers have prepared a good stock of CORN CULTIVATORS, both wrought and cast iron; GRASS CRADLES, with best quality warranted Scythes attached; GRASS SCYTHES and SNEADS ready hung or separate; Steel Hay, Grain, Manure Forks and improved Wheat Fans. They are also now manufacturing and preparing to furnish Lane's Patent THRASHING MACHINE at \$75. Horse Powers \$75, which, together with their usual stock of Ploughs and other Agricultural Implements, are offered for sale on accommodating terms.

Also a supply of SWEET POTATO ROOTS, for planting.
SINCLAIR & MOORE,
June 1. Grant street, near Pratt street wharf.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—There has been a further decline in flour and grain. There is, however, no business doing. A small cargo of forty bushels of rare ripe white wheat was sold on Friday last at \$1.35, but that price could not be obtained now. Rye continues to decline, and corn and oats remain as before.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—1st op. common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00a 26.00.—Virginia, 4.00 —.—Rappahannock, 3.00 a 4.00.—Kentucky 3.50 a 8.00. The inspections of the week comprise 700 hhd. Md.; 103 hhd. Ohio; and 19 hds. Ken.—total 827 hds.

Flour.—best white wheat family, \$6.75 a 7.25; super Howard-street, 6.25 a 6.37 1/2; city mills, 6.25 a 6.25; 1st, 6.25 a —; CORN MEAL bbl 3 60; (KRAIL, best red wheat \$1.15 a 1.20; white do 1.25 a 1.50; Suss, —.—CORN, white, 62 a 63, yellow 62 a 63; Kye, 75 a —.—OATS, 45 a 46 —.—BEANS, 75 a 80 —.—PEAS, 65 a 70 —.—CLOVER-SEED — a —.—TIMOTHY, — a —.—ORCHARD GRASS — a —.—Tall Meadow Oat Grass — a —.—Herds, 75 a 87 1/2, Lucerne — a 87 1/2 —.—BARLEY, FIAKSEE 1.50 a 1.62. CORN, Va. 8a10 —.—LOU. 9 a 13 —.—Alab. 8 a 11 1/2 —.—Tenn. 8 a 10, N. Car. 8 a 10 —.—Upland 8 a 11 —.—WHISKY, hhd. 15 p. 32 —; in hbls, 33 a 34 —.—Wool, Washed, Prime or Saxony Fleece 50 a 60; American Full Blood, 45 a 50; three quarters do, 40 a 45; half do, 35 a 40; quarter do, 30 a 35; common 25 a 30. —.—Washed, Prime or Saxony Fleece, 20 a 25; American Full Blood, 27 a 30; three quarters do, 25 a 27; half do, 22 a 25; quarter do 20 a 25; common, 17 a 20 Hemp, Russia, ton, \$22.5 a 23.00. Cotton—dew rotted, — a 7c lb. water-rotted 7 1/2 a 8c.—Feathers 36 1/2 a 37; Blister Paris, per ton, 4.37 1/2 a —, ground, 1.50 a — lb. Iron, gray for foundries per ton 33.00 a —; high pig for forges, per ton, 28.00 a 30.00; pig Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5 50 a 6.75 —.—Oak wood, 3.25 a 3.50 —.—Hickory, 4.50 a —.

CONTENTS OF THIS NUMBER.

Editorial: The Suppernong Grape; The Agricultural Interest; Type Machine; The Cholera; Notices of Flowers now in Bloom—Product and Management of a Farm—Cultivation of Celery; Largest and Best Kinds—Description of the Suppernong Grape, with a plate.—The Mountain Shepherd's Manual, part first; Anatomical Observations; Organs of Digestion, Contents of the Chest, The Lungs, The Brain and Nerves, The Teeth—Wool; its Value to all parts of the Union —Specimens of Silk Manufacture in Virginia.—Letter from Dr. Robert R. Harden, on the Cause, Effect, and Treatment of Blind Stargers in Hogs and Horses—Suggestions as to the Native Country of Maize or Indian Corn—To Preserve Butter Fresh—Good Adage—Foreign Markets—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, basement of Barnum's City hotel,) by I. I. HITCHCOCK, on the following

TERMS.

1. Price five dollars per annum; due at the middle of each year of subscription.
2. Subscribers are in all cases charged by the year, and never for a shorter term.
3. When one sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order, except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage. Freest communications intended for publication, and letters containing queries.
7. All Postmasters are requested to act as agents for the Farmers; they are authorized to retain \$1 for each new subscriber, and 10 per cent. on all other collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, JULY 13, 1832.

CHEAT AND DARNEL.—We are much indebted to Col. Emory, of the Eastern Shore of Maryland, for the communication on another page relative to cheat. The "heads of darnel" enclosed in the letter, are those of common cheat, and the darnel of the English. Cheat in England is called smooth rye; in America, cheat, chess, and sometimes darnel. Its botanical name is *Bromus secalinus*, belonging to the 3d class and 2d order of Linnaeus. But there is another species of bromus or cheat very common in this country, and so nearly resembling common cheat that it is often mistaken for it. It is the *Bromus mollis* of Linnaeus—soft bromus grass of the English. The only material difference between this plant and the true cheat, is the slenderness of its growth and smallness of its seeds, by which, when together, the two species are easily distinguished. The soft bromus grass is supposed to spring from degenerated timothy, by the believers in such changes, as it is most usually found in grounds adapted to timothy.

Darnel, the kind mentioned by Col. Emory as having first appeared in Kent Island (in the Chesapeake bay) soon after the British encampment on that island, of which Col. E. sent a specimen, is the *Lolium temulentum* of Linnaeus, belonging to the 3d class and 2d order of the Linnaean arrangement. It is of the same genus as the celebrated and excellent perennial rye grass, and this latter and eight other species are all called darnel in England. Some farmers in England, and other parts of Europe, still suppose that this darnel originates from degenerated rye and wheat, whence probably the common name of rye grass.

By some persons in Virginia, the darnel (*Lolium temulentum*) is called *speltz*, but improperly, as there is a species of wheat, *tritium spelta*, which is called *speltz* in England; but no other plant is called by any name resembling it. *Speltz* is grown in some parts of Germany, on high land, where common wheat will not ripen. It is improperly placed in the genus *tritium*, (wheat,) as it has distinct generic characters.—It has a stout straw, almost solid, with strong spikes or heads, and chaff adhering firmly to the grain.—The grain is light, yields but little flour, and makes poor bread.

The tares or vetches of England, are very distinct plants from cheat and darnel. They are the *Vicia sativa* of Linnaeus, and in their characters and habits resemble the common pea.

We rejoice that Col. Emory has been able to trace the origin of this new pest, (darnel,) as otherwise our wheat would have been degraded by another suspicion of its mutability. It has, however, already suffered in this way, as will have been seen in an article in the 16th number of the Farmer, page 124. The origin of darnel having been traced to Kent Island, its existence there is easily accounted for—it was doubtless brought there in the horse provender, in the oats; and as it is a common practice to feed the tailings of wheat to horses, it is very probable that quantities of that article were sent over for the use of the British cavalry horses, and thus left on the island where the enemy encamped.

We are glad to add the name of so respectable a gentleman as Col. Emory to the list of those who believe in the immutability of wheat, and of every other created thing. Vegetables may be improved in their qualities, may be rendered worthless, and may be hybridised, by high or low cultivation, and by cross impregnation, but their distinctive characters, their organic structure, must always remain the same—without a shadow of change. The short fine hair of the leaves can no more be taken from cheat nor added to wheat, than a regular ear of corn can be produced upon broom-corn; nor watermelons can be produced from pumpkin vines, or any other such irregular operation.

CULTURE OF OPIUM IN THE SOUTH.—A writer in the Southern Agriculturist for July, recommends the culture of opium in the southern states. Some years ago the present Editor of the American Farmer attempted to introduce the culture of opium in that section of the country. He considered it an object of great importance; imported seed from Smyrna, and distributed it among his friends in the south. His own experiments were perfectly successful, as were all others so far as they were carried. Just, however, as we were about to enter into the project upon a large scale, an obstacle, or rather an objection was suggested by a respected friend in Georgia, which caused us to stay further proceedings and abandon the project. The objection suggested was, that it would place within reach of the slaves of the south, the most potent and enchanting, and at the same time the most deleterious stimulant in the world; from the free use of which it would be impossible to restrain them, in consequence of the very small bulk necessary for their purpose. A still greater evil was apprehended from the same class of people having access to such a *nachina bellica*. This suggestion caused us instantly to suspend operations, and we now lay it before the people of the south for consideration. There is no other obstacle to the production of the article in the south, to a most profitable extent; and if that be considered either visionary, susceptible of removal, or an evil against which sufficient precautionary measures can be adopted, we advise our southern friends to commence forthwith; for there are few things that infirm, superannuated and adolescent people can be employed to at greater profit.

MOWBRAY ON POULTRY, &c.—We have received from the publishers, Messrs. Lilly & Wait and Carter & Hendece, of Boston, a copy of that excellent little book, entitled, A treatise on breeding, rearing, and fattening all kinds of poultry, cows, swine, and other domestic animals, by P. Mowbray, of England.—We have for some time possessed an English edition of this work, and consider it one of the most useful books in our library. The present edition has been considerably improved by the editor, Thomas G. Fessenden, Esq. editor of the New England Farmer, by the omission of much of such matter as was only of local interest in Great Britain, or of no practical use in this country; and by additions adapted to the soil, climate, and common course of culture in the United States. The book is also less expensive than the English edition. We do not hesitate to recommend this work to the attention of agriculturists. They will find it a most useful work to refer to on a great variety of subjects of considerable interest to them.

True, most true.—The following remark appeared in the Sky—(to prevent mistakes we must observe that the Sky is a well conducted newspaper, published at Ebensburgh, Pa.) in a commendatory article on the American Farmer.

"Such as believe that whilst all other sciences are undergoing progressive improvement, the science of husbandry has arrived to perfection in by gone days, will not profit by reading the Farmer. Those who believe that farming consists alone in ploughing, sowing and reaping, without reference to season, climate or soil, had better save the subscription, five dollars, to aid in repairing the loss which their prejudice and bigoted obstinacy must inevitably occasion."

OIL STONE.—An excellent specimen of oil stone may be seen at the office of the American Farmer, from a quarry in Louisa county, Virginia, belonging to Dr. Colman. The vein is 59 feet long and from 12 to 42 inches in width—depth unknown. The quality of the stone is somewhat different from the Turkey oil stone, and especially so in having no nodules, nor soft parts. Acids have no effect on it.—From the result of several trials we have made with

this stone, we are inclined to the opinion that it will be found very far superior to any other oil stone known. The silicious particles, on which the quality of the grit entirely depends, are more evenly and perfectly distributed, are finer and more pure, than those of any other we ever examined; this renders the grit exceedingly sharp and effective in reducing tools to an edge. Specimens have been left with several of our best mechanics for a fair trial, and all of them have given a very favorable opinion of it so far as their present partial examinations enabled them to judge. This stone will be brought into market soon by Messrs. Colman, Raymond & Kellogg, of Richmond, Va.

COTTAGE FLOWER GARDEN.

DWARF WHITE EVENING PRIMROSE.—(*Oenothera tetralopha*, a very beautiful flower of the easiest culture and adapted to any soil. It grows from six to ten inches high, and continues in bloom two or three months. Its greatest fault is the late hour in the evening at which it expands its flowers—only a few minutes before sunset. This however, may be accelerated an hour or two by unlocking the points of the calyx, which we always do. Several other varieties of *œnothera* are now in bloom, chiefly morning primroses—all very beautiful.

DWARF CONVULVULUS. Sp.? This beautiful little plant surpasses all the genera we have seen. The rim of the flower is sky-blue, the middle pure white, and the centre bright yellow. The plant grows about six to eight inches high, and the flowers pro duce fine effect among other low flowering plants.

(For the American Farmer.)

CHINESE PÆONIAS.

In the fall of 1830, I sent to a nursery of high repute, for those Chinese *Pæonias* known by the names of "*Fragnans*" and "*Humet*," and they came charged at \$2 a piece. Neither of them flowered until this season; and now they have flowered, I am much disappointed. They have both precisely the same hue, which I would call a *flesh color*; and though there is some difference in the fullness of the flowers, they are so nearly alike that I doubt if they are distinct varieties, and cannot believe that they are the genuine kinds known by those names. In fragrance, neither is superior to *whitellii*, which as a splendid flower far excels them both.

On turning to *Prince's Catalogue*, I find them thus characterised: *Humet*: "Chinese double crimson with splendid flowers." *Fragnans*: "Chinese rose scented, deep crimson, and very fragrant." No man, who has any just conception of colors, or any regard to propriety of language, would call either of my plants "*crimson*;" yet I do not suspect the integrity of the gentleman who sent them; and I only wish to say that *nurserymen who mean to sustain a fair reputation, must be not only honest themselves, but they must have knowledge enough to detect the deceptions of others.* AN AMATEUR.

BEES.

Watch your bees, for it is about time to look out for swarms. This useful insect meets with less attention from us farmers, than it merits. Bees cost almost nothing at all but a little care, and a few hives, which almost any farmer can make. Some believe, and apparently on good grounds, that a garret or any other unoccupied dark room will answer every purpose of a bee-house; and Dr. Smith asserts, that bees in a garret, "with so much room before them and a few small orifices through which they might get into the open air, never would swarm till the whole garret was completely stored with oomb." But in order that you may manage your bees to the best advantage, you had better procure the little treatise on bees written by Dr. Thacher and Dr. Smith, which may be had of any of the Boston booksellers, as well as at the New England Farmer office.—N. E. Farmer.

AGRICULTURE.

IMPROVEMENT OF SHEEP AND WOOL.

February 4th, 1832.

To Mr. T. W. of Nashville, Tenn.

Dear Sir,—I regret that it has been out of my power to reply to your interesting letter of the 9th of December before this—and I trust you will credit the assertion that my time has been completely occupied until this moment, with previous engagements on agricultural subjects. If my time and general ability was equal to my zeal to sustain a subject of such universal importance, I am sure I would devote my life and fortune, beyond a competency, to the interests of so noble a cause—but I am a plain farmer, without an overseer, (the last one I had ran off with one of my best negroes, and sold her in your state for 7 or 800 dollars, as I was informed, when they were so very high) and compelled to be attentive to my farming matters, which must be an apology for the very imperfect manner in which your queries will be answered. It will certainly afford me great pleasure if I can contribute, in the least, to your success in a business that I have been endeavoring for these twenty years to make a national subject of. I have done precious little—perhaps 20 more years would enable me to witness, with the same perseverance, a more general benefit. For the last 4 or 5 years I have sent abroad some 60 or 70 sheep, and the inquiries which are becoming more and more frequent, indicate an increasing interest in the subject. Let me take the liberty of referring you to the last 10 volumes of the American Farmer, for a number of essays on the subject of sheep. I regret most sincerely that I had not taken copies of answers to queries for some years back, as I have reason to believe they would have been gratifying to you in their general range of disquisition—and I am sure my health will not permit the application now which is required to do yours tolerable justice. Nothing but the belief of the immense importance of this subject to the interests of our country, and a conviction, that at the same time my own family could be better and more honorably supported by an attention to the theory, as well as the practices of sheep and cattle husbandry, could ever have induced me to throw myself on the observation of the public, without being better qualified to sustain a cause of such growing importance to this nation. Under these impressions, I called on my brother farmers for aid, but find that for one who comes forward in that way, half a dozen solicits it of me, and I am sure if I had a sufficient basis to go upon, that nothing would afford me so much pleasure as to disseminate information of so much importance.

I have more than once recommended in the American Farmer, the establishment of stock farms, not only as a highly advantageous private resource, but as a public blessing. As far as I have tried it, I have certainly found it so. I was about to say, that in proportion to the individual advantage, so was the benefit to be derived abroad—but I will go much further, and say, that if I sell a ram for \$25, or a bull for 50 or 100, there is a benefit accruing to the purchaser and his district of country, out of all proportion to the advantage I derive. With a company of half a dozen, I purchased a Shorthorn Bull of Mr. J. H. Povel, at \$265, including all expenses—there has not been a calf of his get which has been valued at less than \$50, from a decent cow—I have sold them for \$100. Let me ask, then, where will the benefit of this improvement end?

I have sent sheep into the lower part of Virginia, where they have been sold for higher prices than I got for them, even in the tobacco country, where I trust to make a still greater impression. But perhaps you may be anxious to have an answer to the queries;—then, in my plain way, you shall have it.

1st. What is the best treatise on the management of sheep, and where can it be procured? I have seen

many, and have gotten hints from all, but experience is my book at present, which could not easily be made a book of. But there is Livingston, of New York, Humphreys, of Connecticut, and Carr, on Merino sheep; Laurence, Dickerson, Cully, Looock, &c., on British sheep and wool; Dabenton, and some most scientific writings from the society of Nar, in the neighborhood of Paris; and a number of good essays in the American Farmer, by our own countrymen.—They may be had at Baltimore or Philadelphia.—Have you no book makers in the west?

2d. Has such information as you seem desirous of directing attention to, in the publication above referred to, however scanty or unsatisfactory, ever been embodied in print, so that recourse can be had to it? I know of no such work in any language, still there may be many such. The frequent applications to me for information on this subject, and at the same time the most uninformed suggestions, attending local experience, in the adaptation of the animal to the soil and climate, led me on to the importance of making inquiries, which resulted in the determination to ascertain, if possible, all the comparative qualities of wool and sheep in every district of our immense country, where intermixtures or exchanges might prove to be beneficial—hoping that with the aid of some investigating minds I might be enabled to lead the way to natural researches, which, in process of time, would not only greatly improve the animal, and its fleece, but fit them more appropriately to their several divisions of climate and country, and consequently increase their aggregate value. But not merely to stop at this, and yours is a case in point—for instance, you wish to keep a very large flock; now, in the same climate and soil, because of that very circumstance, the nature of the sheep must be made to differ. If 50 or 100, or any reasonable addition according to the size of the farm, to be raised and kept entirely on it, was the desirable mode why they may be of any large, long-wooled, or crossed breed, as free from gross deformities as possible; but such would not suit to clamber the mountains, and encounter the vicissitudes and changes of the year; they must be active, compact, not overburthened with wool, solid and sound in the hoof, with constitutions suited to change, &c. &c.—but the wool may be made finer, and if that is the principal object, the animal need not be, to be profitable, so exquisitely formed, as if mutton and appearance was a great object. Has form really any thing to do with flavor?

3d. What is the average quantity of clean merchantable wool that a healthy, well managed sheep will produce per year? I mean of a sheep that is supported for the sake of its wool, and not one, such as belongs to the little flock of every farmer, whose wool is gathered merely incidentally, and for family consumption? I should calculate on a difference of production in wool, of from 50 to 100 per cent. in favor of a small flock well kept on a farm, according to a variety of circumstances. But the wool generally from a small flock should be only of a medium fineness, best to subservise its general purpose—that, from a migrating flock of from one to ten thousand, should be fine, that is, as fine as the circumstances of soil, situation, and climate will admit; and now you will see the necessity of my coming on you for information, to say what grade of wool can be most profitably raised on your particular soil, or section of country. I want some data to form at least an opinion on; I want the general quality of the wool as it is with you, and a number of circumstances attending it. Your state, some how or other, must furnish the information, if you ever expect to derive even a reasonable theory on the subject. From the state of Maine, I hope to receive a sample from all their different kinds of sheep, with a history of their general qualities and purposes, &c. &c. Could I be flattered with the same testimony from many parts of our country, I should find much less difficulty in answering the queries of friends far and wide. I should not, from present information, be disposed to rate the average production

of wool from a flock of hundreds and thousands, feeding on the mountains and glades in the summer, and in the winter, on their home pastures, hay, straw, and provisions of trough feed to give the lambs a good start, at more than from 3 to 4 lbs. of fine wool, according to their keep, which should always be worth double as much as the ordinary plantation wool, producing double as much from large mutton sheep.—Why do thin fleeced sheep produce better mutton than closed wooled—or is it so?

4th. What is the difference of product in wool, between lambs, ewes, and wedders? Breeding ewes produce less by 25 or 50 per cent. than the others—any material difference between the other two classes would be the result of keeping at an early stage—for instance, lambs indifferently kept, and unthrifty in their growth, whether fall, winter, or spring, will not probably turn out as much or more the first as the second fleece, because the second year they are much better able to provide for themselves, and have a greater surface to shear from—but when the lambs are taken good care of, which should ever be the case where early and certain profit is expected through the speedy maturity of the animal, they produce more by 25 per cent. than at any future shearing, their wool being doubly as long, or nearly, especially if they be fall or winter lambs, uniformly improving; but should such receive a check, they will never recover it, and not be superior, if as good, as the March or April lambs. In very mild latitudes, where the snows are never great, and remain on the ground but a short period, it may be recommended to have late fall or early winter lambs; but in colder climates, up to the most frigid, lambs, coming before the spring, cost double as much to rear them, with much care and attention, and should that be withheld, from false motives of economy, the lambs will not only be deteriorated in size, form, and wool production, but their mothers will exhibit a deficiency in wool, more than equal to the value of the food which would have sustained both with credit, and would from year to year receive a shock productive of premature age and debility. Can you tell me how it is that the ewe lambs produce finer and much longer wool than the other sex? or is it so with you?

5th. What is the common age to which a sheep will attain, without any decline in the quantity or quality of its fleece? Sheep of different breeds, perhaps on an average, arrive at perfection the third year, and may retain it for the same period of time. If, in the first place, they have been pampered, their decline will be more rapid; if their approach to perfection more gradual, they will meet the vicissitudes of the seasons with less interruption and consequently extend their usefulness, if they are not so productive in the earliest stages of their growth. If it be admitted that the age of 6 is, upon the whole, the best period to turn off the breeding ewes, after they shall have produced their 4, 5, and 6 lambs, and because at that age they may be made good mutton of, there are very many exceptions to this rule, therefore as long as ewes retain their good looks, producing fine lambs, they should be regarded as more valuable than untried ewes—and they should be retained also, because it happens that many ewes, from various causes, not easily remedied, fail to be good breeders, and if not singled out by the watchful eye of the shepherd, and appropriated to the butcher, or to the gratuitous acceptance of some of the poor of the neighborhood, rather than suffer them to produce offspring, tending in the least to deterioration, would in time so amalgamate the bad with the good as to injure a flock beyond remedy. My experience teaches me to believe, that the Merino is a long-lived sheep, and makes a better cross on our country sheep than any other European breed. I once sold an ewe to a butcher, very fat, full blooded, from ten to twelve years old, having had some eight or nine lambs, then ceased breeding for two years. In regard to the qualities of wool, and its changes, otherwise than by the immediate influ-

ence of crosses, there is much of speculation in our embryo state of practical philosophy on the subject, with ninety-nine out of a hundred of our farmers, wool is wool, and say they, what is more; no distinction do they make between such as may be almost shaken from the sheep's back, or such as will draw the blood with it, if not removed with great care, in small locks. Do the second and after fleeces present a greater number of fibres than the first, and are the tubes of the wool enlarged in all the fleeces subsequent to the first?

6th. When your stock of sheep has become as numerous as your farm will support, or as your means employed are adequate to the due care and management of, how do you reduce it, so as to prevent the next year's lambs from overwhelming you, or without sacrificing those lambs, or an equal number of the old sheep? Wherever it would be expedient to go extensively into a system of sheep breeding, I should not fear being overwhelmed by the increase, nor doubt the existence of some mode to keep within proper bounds the increase of the flock, affording a fair profit on the sales of redundant sheep. Will not a choice always present itself between driving them to market as mutton, or making delicious venison of them at home for exportation? Sheep, accustomed to ramble and rove, would carry themselves to market, some one or two hundred miles, to advantage. It is a fatal error to be overstocked, for these brief and simple reasons. If you are careful to keep well within the bounds of what your resources would, to their utmost extent sustain, a division of the remainder will have the salutary effect of keeping in a higher degree of perfection, the whole stock, and should always be a storehouse against accident or want in their many contingencies. But an overstock will not only most certainly deteriorate itself, but impair the resources, which are the foundation of the scheme of improvement. The exigence you speak of, should occur every year, in the sale of ewes and widders, after a farm is sufficiently stocked; provided it be on a scale large enough to demand it.

Should you ever enter on a large scale of breeding, will it be to your interest or not, to take a decided part in the establishment of wool factories? I must have the presumption to answer this query, and append another. If there are situations in the great West, favorable to the keeping of some thousands of sheep under the care of shepherds, in the uncultivated mountains and valleys, producing wool of the best quality, I apprehend it cannot be doubted, the economy and general expediency of having a factory hard by, to purchase your annual shearing. An association of farmers might supply an establishment with all the fine wool required, while the balance could be obtained of the small wool growers of inferior grades. Will not your sales be more advantageous in a domestic way, at or near your own doors, than by passing it through the hands of a variety of commissionaires, on its way to some foreign market? "Why quit our own to stand on foreign ground?" or, in other words, why send thousands of miles for a coat, which we can make on our own farms, or have made by our enterprising artisans? Why would it be better to enlarge the carcass, generally, of sheep, even at the risk of deteriorating its exquisite fineness? or is it a matter worthy of serious consideration?

7th. How often does a stock of sheep require to be crossed, to prevent the breed from degenerating?—I consider judicious crossing the very life and soul of permanently profitable breeding, touching especially, the essential points of quantity and quality of wool, size and form of the animal, constitution, general appearance, special qualities and habits, &c. &c. By this I do not mean, always, that change, which is brought about by an amalgamation of kinds, and is too frequently resorted to without meaning, judgment, or discretion—but that kind of renewal, which is introduced by discriminating selections, from your own or a neighbor's flock, of the same general strain of ani-

mal. It rarely happens, that out of a hundred or so lambs, at least one is not distinguished by some remarkable trait or traits, highly propitious to improvements, which, with due care, may be extended to remote generations. This opinion is based on the presumption that in our new country, where breeds are yet to be principally formed by name, as well as by discriminating facts and appearances; that our country sheep have been improved by a system of in and in breeding, until they have approached sufficiently near the qualities of the original ram to suit the purposes of the breeder. It is then that judicious selections are to be adopted to further improve and constitute the character of that particular race of sheep. I would hazard an opinion, that when we come to understand the qualities of a number of well established breeds, crosses out of number may be exchanged to great advantage—but there must first be more knowledge, a better understanding, and freer communication between gentlemen of the different districts of our country, before even an approximation to a general system of improvement can take place.

The Board of Agriculture recommended by Gen. Washington, yes, an Agricultural Congress, to meet annually at the Federal City, each with their badges of wool, and other representatives of the soil, with cultivated intellects, and hearts of American Farmers, glowing with desires to promote the good of each other, while in the search of knowledge for the special prosperity of their individual states, would be of unlimited importance.

When we reflect on the extensive good which might be done by a learned and patriotic association of agriculturists, in connection with that name conspicuous from its birth, (near 100 years,) who never indulged in speculative theories, it is difficult to say which should preponderate; our regrets at leaving so many of his profoundly wise recommendations undone; or our unceasing gratitude for the benefit of such acts, as have immortalized his name, and rendered a nation greatly happy.

You will perceive, sir, how difficult it is for me to make a direct reply to many of your queries, with limited experience, and a want of circumstances. Can you tell me why it is, that a coarse woolled ram makes a bad cross, on a fine woolled ewe? And, on the contrary, why a fine woolled ram makes an improving cross on a coarse woolled ewe?—or is it the fact?

8th. What epidemics are sheep most liable to, and what are the best cures and preventives? This is a division of the subject I profess to know but little of, and I must confess I am not desirous of knowing more, especially in the recollection that an ounce of preventive is worth a pound of cure. Twenty years since, when Napoleon scattered the immense flocks of Spain to the four winds of heaven, and thousands of them were wafted to our shores, from thence to be spread and engrafted on our native flocks, laying a foundation for the future wealth and comforts of a great nation, the scab was introduced into some of our flocks, a scorbutic affection which would have materially injured them, if an immediate and energetic application of tar, tobacco juice, hogslard and spirits of turpentine, had not followed a thorough cleansing with soft soap. If permitted to spread, it will ruin the wool of the finest flock. They communicate it by lying close together, and rubbing at the same parts their itching and tortured flesh. The only native disease with which I have ever been troubled, is one which principally affects ewes with lambs in the finest order, when they are precluded from green food by deep snows. This is the only epidemic I have ever known; have felt its effects occasionally slightly, but in this region of country it has been severely felt, particularly during the two months snow of last winter. I have made no discoveries, either as a sure preventive or cure, although I have solicited aid through the pages of the American Farmer. Healthy situations, moderate numbers, a free use of salt, tarred troughs, &c., are precautions, which will be, from my expe-

rience, a general preventive to disease. In Europe, their sheep are affected by a long string of diseases, sufficient to deter any one from entering here, if there was any prospect of the same originating with us.

Are there a greater variety of diseases amongst the human race in Europe, as well as amongst the brute creation—and what the causes for both—whether a denser population and more land in cultivation, or the customs and habits of the people?

9th. What is the annual expense per head of supporting sheep? What kind of provender is best for sheep; how should it be prepared, and how fed out to them? The first clause of this query cannot be answered without an accurate knowledge of the circumstances attending the location where they would be raised—for instance, if one dollar per head, is reckoned a reasonable allowance generally, it may vary from that to two dollars, depending upon a variety of circumstances which cannot, with any degree of accuracy be anticipated. Sheep, bred almost exclusively for their wool, would cost vastly less to raise them than large mutton sheep—the one would appropriately be raised, where lands were low in price, the other where they were more valuable for cultivation. To the second clause let it be replied, that where corn, hay, oats, and turnips can be raised in abundance, there cannot be better food,—the meal to mix with the turnips, oats to form a wholesome variety, and hay a constant food—salted straw is an excellent substitute for hay, whether wheat, oat, barley, &c.—rye is inferior to any; but grazing it is a valuable aid in sheep husbandry. There is a false impression in our country, that turnips cannot be made a certain crop. It has been disproved, to my knowledge, by an English farmer, who formerly labored under such impressions, but who now, on lands which have been the poorest in Fairfax county, Virginia, raises heavy crops for sheep. The failure is owing to the improper cultivation of them. I never fail when the land is put in perfect order by the plough and harrow, and sufficiently enriched by fresh manure, which drives off the fly. Frequently sow turnips in July, and in a month or so, rye on the same ground harrowed in—it would be imagined that this course would effectually destroy the young turnips—not so, if sowed thick, (two or three pounds of seed to the acre); it is only a necessary and wholesome cultivation, in order to destroy nine plants out of ten. In the autumn, when all the good sized turnips are secured for winter use, the small ones remaining are grazed off with the rye, which affords a deal of food through the winter and spring. The last clause of the query is the preparation of the food, and manner of feeding them. It is thought not so important to convert corn into meal for sheep as for cattle, though I have always been in the habit of grinding it very coarse in a horse-mill, and mixing it with wheat bran, or with turnips, either bruised or chopped, and fed in troughs. Indian meal is well known to be one of the most nutritious and substantial articles of food for man or beast. It is peculiarly adapted to the sustenance of sheep, with or without their salt, when fed in troughs at any season. Where meal is fed by itself in this way, turnips may be fed without loss, and much economy, where the climate and soil is generally hard and firm enough to admit of their being fed from the pile where they were buried, (which may contain to advantage as high as fifty bushels) by casting them around of any size, to the eager and anxious animals.

Why is it less important to manufacture the hard grain for sheep than for other animals, or is it so—and why are they seldom fed with boiled food, or mixed with water in any way?

10th. How often do they require salting, and what quantity of salt ought to be furnished to a hundred head in the course of a year? In new countries and in humid soils, salt is especially necessary for the health and thrift of sheep. It should be given them whenever they signify by their plaintive language to

the shepherd that they want it,—experience must teach what quantity is really necessary, but they should never be stinted, as perhaps, considering all things, they would make better members of a Temperance Society, than their betters, and do not, like some other animals, devour indiscriminately whatever they come to, although they take a bite of most things that catch their eye. Five or six bushels to the hundred sheep, would be little enough to lay in for them.

Why do sheep require more salt in a new country, and a greater frequency of it when they have a variety of green food—or is this also a fact?

11th. How many hands are sufficient to raise food for, and to tend a flock of one thousand sheep? and what description of hands must, or may they be of? and if the flock is increased to ten thousand, or to any number between one and ten thousand, does it require a proportionate increase of the number of hands necessary to raise food for them and to guard them? These questions, separately or combined, would not only puzzle a Scotch shepherd, but a New England lawyer into the bargain. So much depends upon the description of the grounds, and the facilities by which they may be sustained or commanded, that a due knowledge of such is entirely essential to any rational calculation on the subject—for instance, if it were necessary to spread the flocks over a great extent of summer pasture, where lands are broken and thinly supplied with herbage, being woody and mountainous, it would require a greater number of shepherds, than if the greater portion of the chief walks were on such grounds as his call, and covered by a dense herbage, luxuriant, and interspersed with shady groves. Next, the preparations and fixtures for winter feeding, would require more or less force in proportion to the adaptiveness of such fixtures to the convenience of the shepherd. But admitting the facilities to be skillfully regulated, and the natural advantages to be flattering, I should reckon, almost guess, that five or six hands, men and boys, or a woman or two, would be fully sufficient—not that this force would be actually required through the year to provide food for, and administer it to a thousand sheep, but there might be seasons when an additional force would be expedient; and leisure times, when the stationary force of half a dozen might be employed at some other work. It will be perceived that this allowance of labor is based on the supposition that great numbers of sheep would occasionally take advantage of the wild grazing of the forest—but it is rather presumed, that where they are kept exclusively on a number of connected farms, matters might be so arranged as to admit of a considerable diminution of force.

Why would it be expedient to adopt a race of sheep a medium between the heavy mutton breeds, and the small fine woolled merino, where plantations are stocked principally for the raising of wool?

12th. What is the average annual mortality among any given number of sheep, that are well taken care of, and not exposed to any pestilential disease? From the experience I have had with a flock, beginning with not more than forty and gradually rising to one hundred and fifty to two hundred, five or six per cent. would be a fair allowance, including accidents of all kinds, and disease if any;—this loss, where sheep are always kept in good order, and not sold at an extraordinary price for breeders, cannot be considered as worthy of serious notice, because, in their death, they will pay more than a butcher would generally give for a fat mutton, if the skin and tallow is taken care of, and the quarters made into soap,—but, for information like this, and much other required in your letter, I must refer you to our northern and eastern breeders, who are much better qualified to give correct information, and are scattered through Pennsylvania, New York, and the New England states,—their varied experience as large flock masters entitles them to a knowledge which cannot be claimed by breeders on a limited scale; and the liberal acquirements of many of

them, might afford information highly important to the enterprising breeders of the west;—it is, therefore, that I would appeal to them with great earnestness in your behalf, to come forward with their modes of managing sheep, when hundreds and thousands are to be superintended by some individual, who, by a skillful care of them, may render the community an essential benefit. In the above calculation is included the occasional losses in the butting of rams, where many are kept together; a circumstance which would not be likely to effect many breeders. Horned sheep should be avoided on this account—perhaps there is no other material objection—but it is said that the horns take the place of so much flesh.

It is a serious loss to have a superior ram killed by butting. Can no plan be adopted to mitigate their fury in certain seasons, and prevent them from venting their spleen so fatally on each other's head? Does the act of emasculation prevent the horns from coming? it appears so with me.

13th. How much cultivated land does it require to produce the food necessary for the sustenance of a thousand sheep, and what proportion of that should be allotted for grain, what for hay, and what for grazing; what kinds of grasses are best to graze them upon, what the best to make hay for them from, and what kinds of grain are most congenial to them, and produced at the cheapest rate? How many sheep may be supported to the acre? is a question which would be variously answered, if correctly, according to the soil and climate. In England where their breeds are as various as their soils, it is supposed that less than one sheep is supported per acre, but that there are some soils so fertile, and peculiarly situated as to sustain as high as eight. A calculation has lately emanated from a high source, (senatorial) but with the very prudent suggestion, that less than three sheep are fed per acre on sheep farms generally in the United States. From the little knowledge and experience I have been able to collect on the subject, three sheep per acre are as many as the very best lands in our country are capable of sustaining—if a greater number were attempted to be kept, they would scarcely be worthy the name of sheep—I should then conclude it would not be safe to calculate on an average greater than one and a half per acre. Your west and south-western climates I should presume where the lands are well adapted in fertility, altitude and tenacity, to sustain heavy grazing without injury from the hoof, would be as likely to support the greatest number, as any other in our country. Your mild winters would enable you to sustain with a greater degree of certainty and economy, sheep of good size and productiveness in wool, and perhaps you may calculate on two or three good sheep to the acre.

This subject was abruptly broken off in the winter, and will be continued as soon as the writer is able. In the mean time, as our harvests will not afford us half labor, a postscript will follow as a brief acknowledgment to other correspondents.

R. K. M.

CHEAT AND DARNEL.

MR. SMITH: Poplar Grove, June 30, 1832.

Dear Sir—I herein enclose you two heads of darnel or cheat, the one with a head resembling oats, is that kind which has been known in this section of the country, time immemorial—the other is a plant which from its peculiar form of growth, resembling the teeth of a saw, or notches on a board, has acquired the name of the notch darnel. It first appeared on Kent Island, soon after the British encampment on that Island, during the late war, from whence it has been carried by birds, and has spread considerably elsewhere. It has a larger and heavier grain than the common darnel, and hence it is with more difficulty separated from the wheat in winnowing. How far its more farinaceous character renders it a better food for stock than the old darnel, I know not. Like the hessian fly which soon appeared after the encamp-

ment of the British on Long Island, it is believed to have been introduced by them; but whether with more truth or not, I am unable to say. I should be glad, if you can furnish them, to have the true botanical names of both these plants, and also the vulgar names they are known by in England; where I presume they are both known, and where the latter may probably be in cultivation for some edible purpose, as I believe it to be extremely productive.* It has long been a matter of surprise to me that intelligent farmers, and particularly my highly intelligent friend Muse, should believe that wheat is capable of turning to darnel. It is against the order of nature, and I venture to assert, it will be against all fair experiments to produce the change. It cannot, in my opinion, be in the power of man or beast to effect it. If you sow wheat on a clean soil, you will have wheat, and if you sow darnel you will have darnel, without any danger of its turning back, to the end of time. A sound rule ought to work both ways; but you can no more convert darnel into wheat, than wheat into darnel.

I am glad to see my Virginia friend and acquaintance Ruffin, has put forth his essay on calcareous manures in a more enlarged and useful form. It is no doubt the best essay on this subject that has been written, from the days of Kirwan to the present time. His theory of the modus operandi of lime on soils I believe is new, and he is unquestionably right in his conclusions. When I read his first essay many years ago, I found in it so many facts in strict accordance with my own experience, and his mode of accounting for effects, which to me before had been occult, so clear, that I was delighted with it. His essay is a great acquisition to the farming interest in the tide-water districts, and depend on it his opinions in favor of the use of calcareous manure are no way extravagant or visionary. If they be, I am as great an enthusiast as he is. I have used calcareous manures within the last twenty years to great extent, and I have rendered a soil valuable, many parts of which were so sour and hungry, as to be wholly incapable of permanent improvement without calcareous, or alkaline manures, and would not have been without them, worth owning. Yours, respectfully,

T. EMORY.

HORTICULTURE.

LONG VITALITY OF SEEDS.

“This was shewn in trenching for a plantation a part of Bush Park, which had probably been undisturbed by the spade or plough since, and perhaps long before, the reign of Charles I. The ground was turned up in the winter, and in the following summer it was covered with a profusion of the tree mignonette, pansies, and the wild raspberry, plants which are now where found in a wild state in the neighborhood—and in a plantation recently made in Richmond Park, a great quantity of the fox glove came up after some deep trenching. I observed a few years ago the same occurrence in a plantation in Devonshire, the surface of which was covered with the dark blue columbine, a flower produced in our gardens by cultivation, and I believe, not known in this country in its wild state. A field also, which had previously little or no Dutch clover upon it, was covered with it after it had been much trampled upon, and fed down by horses—and it is stated from good authority, that if a pine forest in America were to be cut down, and the ground cultivated, and afterwards allowed to return to a state of nature, it would produce plants quite different from those by which it had been previously occupied. So completely indeed is the ground impregnated with seeds, that if earth is brought to the surface from the

*Is it German speltz, tares or vetches, neither of which plants, although grown and known in Europe, I have any knowledge of? The samples I send are unripe.

lowest depth at which it is found, some vegetable matter will spring from it. I have always considered this fact as one of the many surprising instances, of the power and bounty of Almighty God, who has thus literally filled the earth with his goodness, by storing up a deposit of useful seeds in its depths, where they must have lain through a succession of ages, only requiring the energies of man to bring them into action. In huring for water lately at a spot near Kingston-on-Thames some earth was brought up from a depth of three hundred and sixty feet—this earth was carefully covered over with a hand-glass, to prevent the possibility of any other seeds being deposited upon it—yet in a short time, plants vegetated from it. If quick lime be put upon land which from time immemorial has produced nothing but heather, the heather will be killed, and white clover spring up in its place. A curious fact was communicated to me, respecting some land which surrounds an old castle, formerly belonging to the Regent Murray, near Moffatt. On removing the peat, which is about six or eight inches in thickness, a stratum of soil appears, which is supposed to have been a cultivated garden in the time of the Regent, and from which a variety of flowers and plants spring, some of them little known even at this time in Scotland.*

NATURAL CURIOSITY.

Wellsborough, (Penn.) June 2, 1832.

We examined yesterday two pear trees, growing in the garden of Judge Morris, in this borough, which to us present a great natural curiosity; the facts in relation to which, we should have been led to doubt, had we not been an eye witness to them. The trees in question are well grown, have always been thrifty, but with one or two slight exceptions had produced no fruit. In the summer of 1830, two years since, the proprietor judging these trees worthless and only cumbering the ground, determined to destroy them; and for this purpose caused them to be girdled, which was done by cutting a strip, each way, entirely round the tree to the depth of about two inches, thus entirely interrupting the circulation of the juices between the bark and the wood. The trees, however, to the astonishment of all, did not die; but on the contrary, in the spring following put forth full of blossoms, which were succeeded by a large and well grown crop of fruit. The same trees are again, at this time, well set, and bid fair to produce another abundant yield. The only perceptible indications of decay in these trees, if such they may be considered, are, that they appear rather deficient in foliage, the leaves not appearing quite as large or numerous as upon the adjoining trees which had not been girdled. The trees which were left unmolested continue barren, while the means used to destroy those singled out for destruction have proved effectual in rendering them thus far unusually productive. Can horticulturists explain this matter to us?

(From the Genesee Farmer.)

THE MOUNTAIN ASH.

Of the *Sorbus*, we have two species indigenous to this state; and I can now speak with certainty of their localities. The kind which grows near Putneyville is the *Sorbus americana*; and though the flowers appear in an upright corymb, the weight of the fruit soon reverses its position, and it becomes pendant.

Sorbus microcarpa, as the specific name implies, has smaller fruit, and the corymb* remains erect.—It grows among the rocks at the Little Falls of the Mohawk; and is very ornamental, as well as the other species.

D. T.

† Torrey calls the color of the berries "fulvous;" but these are a fine orange approaching to scarlet; and if nurserymen have not this variety, they would do well to procure it.

To Restore the Germinating Power of Seeds.—The fact deserves to be extensively known, that however torpid a seed may be, and destitute of all power to vegetate in any other substance, if steeped in a diluted solution of oxygenated muriatic acid, at temperature of 46 deg. or 48 deg. of Fahrenheit, provided it still possesses its principle of vitality, it will germinate in a few hours. And if after this it be planted, as it ought to be, in its appropriate soil, it will grow with as much speed and vigor, as if it had evinced no torpidity whatever.—*Good's Book of Nature.*

RURAL ECONOMY.

(From the Library of Useful Knowledge.)

THE MOUNTAIN SHEPHERD'S MANUAL.

PART SECOND.

SURGICAL OBSERVATIONS.

Of Wounds, &c.

Wounds of the fleshy parts not being in general very difficult to cure, it may be proper, though sheep are never much in the way of such injuries, to put it in the power of the shepherd to save the limb or life of a valuable animal, when any accident happens.*

The treatment of wounds in brutes differs but little, if at all, from the manner of healing them in the human body. The operations of nature are the same in both; and from them are derived the principles which direct the management. The cruelties which are practised by ignorant and unskilful persons in applying their nustrums, and knives, and pincers, and cords, and burning irons to poor dumb creatures, call loudly for the intervention of common sense and humanity.

It is not intended to enter into all the minutiae of possible cases of wounds, and to prescribe a mode of treatment for each. This would require so much space and so many details, as would tend only to perplex those for whose use this treatise is intended, without being of any material use. All that is proposed, is to direct the shepherd how to act in ordinary cases, in which a reasonable hope of success may be entertained.

When the fleshy part of a muscle is cut in the direction of its fibres, there is scarcely any separation of the divided parts. But when it is cut across, there is considerable retraction, and the wound, according to the common phrase, gaps. Thus a very deep and severe wound may, externally, appear to be trifling, and one of little consequence may be thought alarming, when no danger is to be apprehended.

An effusion of blood follows the infliction of a wound in a large or small quantity, according to the size and number of arteries and veins which may have been injured; and in the amount of the flow of blood danger is to be estimated. When the blood-vessels are not considerable, and are cut quite through, they draw back amongst the muscular fibres, and the flow of blood soon ceases. When the blood has stopped, another fluid oozes out, and this, together with coagulated blood, are the applications which nature makes for the cure, and which, in trifling wounds, generally prove effectual. But in extensive and severe wounds, another process goes on, if not prevented. A few hours after the infliction of the injury, the parts become red, swelled, and hot, and symptoms of fever are perceived. All these symptoms increase rapidly; and if the inflammation goes beyond what is necessary to produce what is called suppurative, or the formation and discharge of matter, mortification puts an end to the pain and to life. But if suppurative comes on, all the bad symptoms abate.

The cure of wounds is effected by adhesion, or by suppuration. When the sides of a wound recently inflicted are brought into accurate contact and kept

* The observations which follow will apply to other animals, and to man, as well as to sheep, and on that account may be the more useful.

together, they adhere very soon, and the wound heals with little or no trouble. But when a wound has been neglected, and in cases of laceration and contusion this method of cure cannot be accomplished, suppuration must then be trusted to, and it must be brought on by every possible means. Poulticing is the most effectual, at the same time keeping the torn parts as near as possible to each other; but there should be no tight bandaging. During the process of suppuration the causes of inflammation are removed, and a supply of new flesh is produced wherever a vacancy has been made. This new flesh sometimes grows in such abundance as to render the removal of part of it necessary. It is, in this case, called fungous, or proud flesh.

SIMPLE INCISED WOUNDS.

These wounds are so called which are made by sharp-cutting instruments, and are usually attended, when considerable, by an effusion of blood. If the effusion of blood be great, and if, from its florid color, and flowing by starts, it appears to proceed from an artery, it must be quickly stopped. If there be no means of applying pressure on the course of the artery, between the wound and the heart, the forefinger ought to be introduced into the wound, and when the jet of blood is felt, it may be pressed upon, and thus stopped, until the wound be made large enough to admit of the artery being tied. An instrument, called a *tenaculum*, which is a sharp-pointed hook, is the most convenient for securing an artery. A double thread being waxed, and an open knot being made upon it, it is put over the instrument. The artery is then laid hold of by the point, and drawn out a little; the open knot is slipped over it, and firmly drawn, and the ends of the thread are allowed to hang from the wound. Veins are secured in the same manner when mere pressure is not sufficient, and a cure is more speedily effected, and also more safely than when sponge or any thing else is stuffed into a wound, or when astringents are applied, for such things prevent adhesion taking place. When bleeding is so profuse as to render immediate applications ineffectual, it may be suffered to proceed till the animal dies, or some more speedy means of terminating its existence may be applied. It is always most profuse when the vessels have been only partially cut. If a small vessel thus partially divided be discovered, the flow of blood may often be stopped by cutting it quite through.

Should the situation of a wounded blood-vessel be such as to render tying impracticable, the bleeding may, in many cases, be stopped by pressure applied to the opening of the vessel. A piece of linen rag is to be folded up, to the size of about a quarter of an inch thick, applied to the orifice, and pressed upon it by one finger. Whenever the blood has ceased to flow, the first thing to be done is to remove any dirt, or any substances that may have got into the wound. If these cannot be got out easily, suppuration must be trusted to for bringing them away. The sides of the wound must be brought together as close as possible; and if this cannot be done by sticking plasters and bandages, recourse must be had to the needle. Various sizes of surgical needles may be kept: they are made curved and flat. A double waxed thread being put through the eye, the point of the needle is to be introduced at some distance from one edge of the wound, and pushed as near to the bottom as possible, and then brought out at the other side. Or if the wound be very deep, two needles may be used, one being introduced at the bottom of the wound, which brings one end of the thread out at one side, and the second needle brings the other end out at the other side. The needles being now taken from the thread, the sides of the wound are to be pressed together, and the thread tied so as to retain them. The number of stitches is to be regulated according to the size and shape of the wound. One for every inch in length is commonly used; but more must be made if the edges

of the wound do not appear in contact. Straps of plaster are then to be applied to support the parts; a piece of linen, spread with simple ointment, laid over the whole, and a bandage applied, but not too tightly. By this treatment a simple wound, even of great extent, may be soon healed, by the first intention, as it is called. The threads, whether tying blood-vessels or supporting the sides of the wound, may be gently pulled after three or four days, when commonly they will come easily away; but force must not be employed. The first dressing should not be changed for some days, and the straps of plaster should be renewed, if observed to slacken. In managing a wound of any kind, shepherds should be careful in examining it from time to time; and if by inflammation and swelling the dressings and bandages become too tight—a circumstance which frequently happens—they should be removed, and a poultice applied, or the parts may be bathed with warm water, or a woollen rag soaked in warm water may be kept upon them. Dangerous symptoms often occur from very trifling causes in very trifling wounds. But if following these directions be not attended by success, it is not likely that any other treatment will be effectual. It is very surprising what nature alone sometimes effects.*

PUNCTURED WOUNDS.

In these the orifice is small in proportion to the depth. Of this kind are wounds made by any pointed instrument, splinters of wood, bites, &c. They are more dangerous than incised wounds, owing to their exciting a greater degree of inflammation, and to the difficulty of getting the sides to adhere uniformly. When the orifice heals before the part below, very troublesome collections of matter are formed, and corrode the parts. In such cases, poultices are useful. Fomentations with a decoction of chamomile flowers will also be of much service, and are, perhaps, preferable to poultices. The method of applying them, is to dip a piece of woollen cloth into the decoction when hot, then to wring it, and apply it to the parts, dipping the cloth again when the heat has abated. It is sometimes necessary to make an incision, to allow collected matter to escape; and in many cases a cure is most easily effected by converting a punctured into an incised wound.

LACERATED AND CONTUSED WOUNDS.

In such wounds, the parts are torn asunder, or bruised so as to have the texture destroyed. Although in these cases, as well as in punctured wounds, there be less appearance of danger, from the flow of blood being usually less, there is more to be dreaded. The danger of wounds is too commonly estimated by the effusion of blood alone; and it sometimes happens, that from the most dangerous, there is no effusion whatever. The parts on which the injury has been inflicted, when their texture has been completely destroyed, mortify and fall off, or are reduced into matter and sloughs; and thus a cure is obtained by suppuration. But inflammation often comes on so severely, as to cause a rapid mortification of the surrounding as well as of the injured parts. When mortification begins in the human body, its progress may, in many instances, be arrested by skillful practitioners; but in the case of an inferior animal, it is, perhaps, very seldom practicable, or of sufficient importance, to apply the same means. Here, therefore, it is only necessary to point

out how to bring the wounded parts to such a degree of inflammation as will induce suppuration.

When the wound has been cleaned, and freed from all extraneous substances, such parts as are almost completely torn or squeezed off should be removed.—But if the parts are not much injured, there is a chance of their adhering, if placed as nearly as possible in their natural position. A large, warm, oiled poultice is then to be folded in a piece of thin linen or muslin, and laid over the wounded and neighboring parts, and changed twice a day. Unless the injury be exceedingly severe, this treatment will most probably bring on the formation of good matter, and any mortified parts will separate. When this has happened, and the inflammation has abated, the wound may be dressed daily with a plaster of hog's-lard.—The animal should be suffered to move about as little as possible, and food but sparingly given to it.

WOUNDS OF THE JOINTS.

These are very difficult to manage. The cure may be attempted by keeping the air from the wound, and bringing the sides into contact by adhesive plaster, and employing poultices. An extensive wound in a joint may be regarded as incurable.

POISONED WOUNDS.

Not unfrequently sheep are bitten by snakes. As the wound inflicted by these creatures is very minute, the injury is never perceived till the poison has entered into the system. Sheep are often observed to become sickly, and to swell; and the symptoms are attributed to braxy or rot, when, in reality, an adder has done the mischief. When it is suspected that a sheep has been bitten by a snake, a spoonful of rape or olive oil should be given several times a day, or the same quantity of the solution of an ounce of volatile salt in two quarts of water.

A French journal of 1802 contains the following article:—"Snakes have increased so much this year on the large commons, that the proprietors of sheep have sustained great loss by them. These reptiles, particularly in the spring, suck the milk of the sheep; and when the wound they inflict is deep, the two teats dry up; so that the sheep, while they continue to be fruitful, can never afterwards suckle their young; but when the wound is slight, the wounded teat only dries up. In several of the commons in the department of Landes, there are flocks, the sheep of which have been sucked in the proportion of four to one.—The sucking may be doubted, but the bite of a snake may cause the udder to dry up."

SPRAINS.

The best mode of treating sprains is to immerse the limb in a pail of hot water for half an hour at a time, several times a day. I have known a pretty severe sprain of the foot and of the wrist, relieved in this way in the course of a single day, when the hot water was applied soon after the accident.

FRACTURES.

The mending of a broken bone, though sometimes tedious, is by no means difficult when the parts covering the bone have not been injured. Let the limb be stretched, and the broken ends of the bone placed as nicely together as possible, and held in that position till a piece of stiff leather, or thin wood is laid along, so that it may extend an inch or two beyond the contiguous joint. This must be kept in its place by a bandage or roller of flannel an inch and a half broad, and as long as may be necessary. The bandage is to be thus managed:—after having been firmly rolled up from both ends to the middle, the middle part is placed at the lower part of the splint, (so the piece of leather or wood is named,) and gradually undoing the two rolls, the bandage is crossed spirally upwards, carrying it up above the upper end of the splint, making it firm, but not too tight, which would impede the circulation of the blood. The splint should be worn during ten days, or a fortnight; and after it has been removed, the bandage should be continued mo-

derately tight, till the limb has acquired its former strength. When any considerable swelling appears, the bandage should be slackened, and tightened again when the swelling abates. When a bone is broken in more than one place, all the pieces are to be brought into their natural situation, and secured in the same manner.

It sometimes happens that a fracture is rude, and part of the bone protruded through the skin. In such a case, a wound must be made of sufficient length to allow the bone to be replaced; and it may be proper to remove some of the splintered portions by a saw or nippers. The splint and bandage must then be applied in such a way as to leave the wound accessible, that it may be dressed as often as may be necessary, from the quantity of matter discharged.

When a bone has been crushed, amputation of the limb is the only means of saving life; but in the case of an animal that must walk on rough ground in search of food, and which would be spoiled for the market by such an operation, it is best to kill it at once. There is a chance, however, of recovery in laying the limb open, and removing the whole of the injured bone; for although the ends of a divided bone be at a considerable distance from each other, new bone will fill up the space, provided the limb be kept steady.

OPERATION OF BLEEDING.

This operation is most conveniently performed on a large vein, the branches of which are spread over the face of the sheep. The vein may be distinctly felt passing over the angle of the jaw, about two inches from it, or opposite to the third of the grinding teeth, into the neck. When the operation is to be performed, the sheep is to be held between the legs of the operator, and the crop placed against a wall, to prevent the animal from recoiling; the left hand is to be placed in such a manner that the fingers come upon the right side of the jaw, so as to press upon the vein a little below where it is intended to be opened. By thus pressing on the vein, the flow of blood to the heart is interrupted, and the opening made by the lancet admits of its flowing out. The opening should be made obliquely across the vein, at the place where it is largest and most distinctly felt through the skin.—The point of the lancet should be introduced steadily; and when the point is felt to have fairly entered the cavity of the vein, it should be raised a little upwards and carried a little forward, that it may not go through both sides, and that the wound may be sufficiently large to allow the blood to flow freely. The cut being made obliquely, is found to answer better than when it is made either directly across, or along the vein. While introducing the instrument, it is of great consequence to keep the vein from rolling under the skin, and escaping from the point; and this is best accomplished by making the incision close to the point of the finger which presses upon the vein. There is a small nerve which runs across the vein, and to avoid cutting it, which is of importance, the incision may be made as low down as possible.

In diseases of the head, requiring the abstraction of blood, and in inflammations of the eyes, it is most advisable to open the vein of the cheek; but in diseases of other parts, blood may also be procured from a large vein that runs along the fore leg. This vein passes from the foot, along the back part of the leg, to the ham, and then goes obliquely over to the forepart of the limb. It is nearest the surface, and sufficiently large a little above the knee, and may be easily opened at that place. The operation may be best performed by securing the other three feet of the animal; and the operator, by grasping the limb *above* the place where the vein is to be opened, causes it to swell; and after it is distinctly felt, makes the incision in the manner recommended for opening the vein of the cheek. The jugular, or vein in the neck, is opened by some; but this is not recommended.

CASTRATION.

The younger the lambs are when cut, the less risk

* If more intimate acquaintance with the nature and cure of wounds, than what is here stated affords, be desired, it may be obtained by consulting the elementary works on surgery. The prejudices of some persons will not allow them to believe that there is any similarity between the structure of the human frame and that of the inferior animals. Prejudices, however, are fast disappearing before the diffusion of knowledge, and those who have been accustomed to despise all knowledge but what they gain by their own experience, are beginning to discover this to be a very dilatory mode of acquiring it.

there is of losing any of them. Perhaps the best rule is to cut them as soon as the testicles are accessible. Some shepherds wait till the youngest of the lambs are old enough; but this renders the operation on the oldest more ticklish. Collecting a large flock of ewes and lambs, and crowding them together, is obviously the worst preparation of the lambs, and materially injures the ewes. Small parcels should be taken up as the lambs become fit. No one should object to this causing more trouble; this is a thing a shepherd must never regard. Heavy ewes may be easily separated, should matters have been so ill managed as to have lambs dropping at long intervals. When the ewes and lambs have been collected, instead of pursuing and catching the lambs in the fold, or fank,* which overheats and greatly agitates them, and materially injures the ewes, they should be allowed to rest for some time; and then the communication, from the division of the park in which they are to another, should be opened, and the lambs taken as they pass, by persons stationed for the purpose. On large farms, a small fold is constructed on every division or hiltel, and the ewes are first separated from the lambs, by allowing the former to escape, and the lambs are then handed over to the person who is to cut them.

Although, as has been already observed, there is less danger when the operation is performed at an early period, it is generally preferred to perform it on horned sheep at a later period, perhaps when the lambs are about two months old. This causes the horns to grow more full, so as to make the wethers look handsome. The weather is generally hot at the proper time, and on this account it is advisable to cut the lambs towards evening.

Different modes of operating have been recommended; but the best is, to grasp the scrotum or bag containing the testicles with the left hand, in such a manner as to press them forward, and render the skin lying over them tight. Two incisions, one over each testicle, are then to be made through the skin at the top of the bag, sufficiently large to allow the stones to pass, and they are to be extracted in the usual manner. The openings being made in this way, allow any matter which might collect in consequence of inflammation to escape freely. At the same time the tails may be docked by cutting off about two-thirds, should this not have been found necessary at a previous period on account of what is called *pinning*, which is the adherence of the tail over the vent, preventing the passage of the excrement. After the business is over, the ewes and lambs should be suffered to walk quietly to their former ground, and there should be no hounding with dogs. The manner in which dogs are made use of, in many cases, is extremely injurious, and especially at this time.—Sheep will seldom attempt to break away if judiciously driven; and dogs should be trained to do their work in a deliberate and leisurely manner.

It is a matter of surprise, when the delicacy of the organs is considered, how little the lambs suffer by the operation. The losses that are sustained in some places, appear to be caused by something unconnected with the operation itself. It often happens that hundreds of lambs die on one farm, while none die in the vicinity. This has been attributed to the soil, or something peculiar in the atmosphere; but the matter has not yet been so completely investigated, as to enable us to know the true cause. All that can be recommended is, that lambs after being cut should not be sent to graze on those places where they have been observed to suffer. Shepherds ought to make careful observations, and to compare the soil of places where lambs die, with that of places where they thrive; the respective conditions of the soils should there appear no great difference; the plants growing on each; and if the plants do not differ, whether they

grow more luxuriantly on one place than on the other. It should also be noticed whether every place unfavorable to lambs has the same aspect, soil, degree of dryness or of humidity, and plants.

OPERATION FOR STURDY, OR WATER IN THE HEAD.

The cause of one species of *sturdy* has been already mentioned. The collection of water in the ventricles of the brain is deemed an incurable disease.—The other and most common form of the disease arises from the production of what surgeons name *Hydatids*. In this case the water is contained in cysts or bags, unconnected with the brain, on which it acts fatally by pressure. Very soon after water has begun to collect in either form of the disease, the animal shows evident and decisive symptoms. It frequently starts, looks stupid, giddy, and confused, as if at a loss what to do. It turns round in the same place, as if wishing to go away, but not seeing which way to escape, it retires from the rest of the flock, and seldom changes its position.

Various methods have been proposed for removing the water and relieving the pressure, and most of them, it is said, have succeeded. When the skull is felt in any part to be thin and yielding, the *hydatids* are found underneath. If in this case the skull be opened and the cysts removed, there is a chance of recovery. The animal must of course be confined, and the wound carefully attended to.

MISCELLANEOUS.

(From the Genesee Farmer.)

VEGETABLE CURIOSITY.

We have lately examined a peach tree which was raised from the seed by Mr. A. Brown, of the town of Greece, in this country, which is a great curiosity, as exhibiting variations from the common laws of vegetation. At the season when other trees put forth their blossoms, there may be seen upon this a great number of button shaped buds or projections, corresponding in situation to the blossoms on other trees, which, instead of expanding and showing petals or flower leaves, sending out from 30 to 40 small peaches. As these increase in size they make a singular appearance, and would leave us to conclude that not only the stamens and petals by some unaccountable process, had been changed into rudiments for fruit. It is not uncommon, among garden flowers, to see those monstrosities which we call double flowers, (as the double Peony) in which all the stamens have been converted into petals, from which circumstance such flowers do not produce seed; but we do not recollect to have seen an instance where stamens and petals both appeared to have been converted into capsules or fruit. Should any of our nurserymen have noticed the like sports of nature, we would be glad to hear from them.

(From Drummond's Letters to a Young Naturalist.)

WHY THE NETTLE STINGS.

Another plant, scarcely less common than the dandelion, is the nettle, three species of which are natives of Great Britain; the Roman nettle, the common nettle, and the small. The first is limited to certain situations, but the other two are found almost everywhere. The common or large nettle is known by grievous experience to every one, though, perhaps, you have never yet inquired whence the pain arises from touching it. You have often been pricked with a pin or needle; but you will recollect, that the pain succeeding that injury is very different from what follows the stinging of a nettle. Now the wound made by either of these is, perhaps twenty times larger than that made by the sting, so that, in the operation of the latter, there must be something more than the mere extent of the wound to account for the

greater pain which is produced. In fact, it is a process altogether analogous to the stinging of a bee, or bite of a venomous serpent. The sting is not like a pin or a needle, solid throughout, but is hollow in the centre, and perforated at the point; and, when touched, it is not only sharp enough to pierce the skin, but also is so constructed as to inject a particle of poisonous fluid into the wound it makes, and that is the source of the pain which follows. The wound itself is so minute, that it would scarcely be felt, but the poison irritates, inflames, and causes the well known pain alluded to. That plant, the small pieces of which (*urtica urens*) stings the most severely, is covered all over with hairs; but, by using a microscope, or a magnifying glass, you may perceive that these are not all of one kind, some being perforated, which are the stings, while others are not. Each sting stands upon a pedestal, and this pedestal performs the office both of gland and poison-bag. It is cellular and spongy within; the sting is placed on its top, and may be moved by a slight pressure to either side, or round in a circle; it seems to stand, as it were, on a universal joint. When a body touches its point, the base is pressed down into the spongy pedestal, and the poisonous fluid rushes up through the tube of the sting, and flows out of the terminal aperture.

RED COB CORN.

This corn is of an excellent quality, and in good repute; it grows readily, and is early. The stalk of the corn is red, also the cob, but the grain is yellow. This corn was introduced into this country by Mr. Joel Lightner. Mr. Lightner mixes his seed corn previous to planting, with a mixture of tar and fish-oil, which preserves the grain from worms, &c. He does not plant his corn as early as farmers in general; he waits until the temperature is regular, above sixty, when the locust leaves are fully expanded, there being then no danger from frost.

[Lancaster Miscellany.]

THE BEEF MARKET.

Farmers and herdsmen in the country, may perhaps be pleased to learn, during the present pinching times for money, that there is one method by which they can readily fill their purses. We were informed yesterday, by the butchers in Fulton Market, that never at any period since the last war with Great Britain—that is to say, during the last seventeen years—has the beef market of New York been so ill-supplied as at the present time. The stock of cattle in market is unusually small, and has been so for several weeks. Of fine beefs, very few are to be had; and if the dealers in this stock desire high prices, and quick sales, so favorable a time as this very rarely occurs. For some weeks past the butchers have been so much troubled to procure prime cattle, as often to be obliged to furnish their customers with the nice steaks and sirloins laid snugly aside for themselves. This will not answer. We like to see the caterers for the meat-market wearing plump cheeks, fresh and rosy. Of such it will do to buy. You can generally tell what quality of meat a butcher keeps from his looks. "Who kills fat oxen, will himself be fat." Woe betide this fair city, when the butchers grow lean like Cassius. And that such may not be their fate, let the drovers in the country bestir themselves.—N. York Commercial.

Why should grapes be eaten soon after they are gathered?

Because, unlike other fruits, grapes do not improve in flavor after gathering.

Why does an apple, when cut, first appear white, and after a time brownish?

Because a fermentation arises from the rest of the fruit absorbing the oxygen of the atmosphere; the apple having previously been, by its tough skin, protected from the contact of the air.—Docteur.

* Fank is the name given in many parts of Scotland to the subdivided inclosure into which sheep are collected for various purposes.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, JULY 20, 1832.

KEY-HOLE CATS—ANGORA CATS. Much curiosity was awakened a few months ago, by the publication in the Farmer, of a letter from Com. Porter to Mr. Skinner, relative to *Key-hole Cats*, and many enquiries were addressed to us on the subject. The following extract of a letter from the Commodore, which has been politely handed to us by Mr. Skinner, explains the mystery. The pair of Angora cats which the Commodore intends to send to Mr. Skinner, will be an acquisition to the country.

"I presume the cats you alluded to, for which Constantinople is said to be so famous, and which you denominated 'Key-hole cats,' can be no other than the cats of Angora, a city and district of Anatolia, and about two hundred and fifty miles from this place. Since I have been in Constantinople, I have only seen one of these cats, and it is in my possession. I say it for it is of the neuter gender, and every way qualified to accompany the notes of the celebrated Madam Ciel-alany. I never knew a cat, whatever the gender, which had sweeter notes than this of mine.

"It is a beautiful animal, as white as the driven snow, of double the size of our common cats, eyes as brilliant as the chameleon's, hair as soft as silk and long as the finger, a ruff still longer around the neck, and a tail like an ostrich plume, flat like that of the flying squirrel, and in its springs used for the same purpose. It is the tamest and most docile animal I ever met with, and as playful as a monkey. I have never seen it catch a rat; but my mouse, which the day before I brought it home, was swarming with rats and mice is now entirely free from them. A general migration took place, and the next morning my neighbor killed in his yard eleven at a single shot, which he said came from my premises.

"I have spoken for a pair that have not been disqualified from propagating their species and shall endeavor to get them to you."

NEW ORNAMENTAL TREE. The seed mentioned by Commodore Porter in the following extract of a letter to Mr. Skinner, has been received and handed to the Editor of the American Farmer for cultivation. We have the pleasure of being able to state that it has vegetated, and the plants are now growing finely. According to present appearances the tree is a species of acacia; the seeds are exactly like those of that tree, as are also the young plants. From the name furnished by the commodore, we can get no clew to the botanical name. On the label of the box it is marked *Gnul aghadj* Rose Tree. The only name we can find any way resembling *gnul aghadj*, is the Arabic name of the *Cadia purpurea*, *gadhly*. The *Cadia purpurea* is an Arabian plant, of the habit of acacia, and somewhat resembling it; grows six to eight feet high, with large purple and white flowers. If the tree sent by the commodore is the *Cadia*, we fear that it will not stand the severity of our winters, as that is a hot house plant. We shall be greatly obliged to any one who can furnish the botanical name of this plant. If we succeed in rearing these trees, Mr. Skinner will have a considerable number for distribution next spring.

Com. Porter and Mr. Skinner are entitled to the thanks of their country for their exertions to introduce new and valuable articles into our fields and gardens.

Extract of a letter from Commodore Porter to J. S. Skinner, Esq. dated

Constantinople, Feb 16, 1832.

I now send you what will be a curiosity in the U. States, the seed of the *Gnul-aghad* or the rare tree. It is the most beautiful thing of the kind I have ever seen. It grows to the size of an ordinary orchard

apple tree, throws out many branches extending horizontally and affords a most delightful shade. It is literally covered with flowers of a dark pink color, and from the smell though not from any resemblance, I should suppose it to be of the family of the *Acacia*, which is of the nature of the locust. This tree in no ways resembles the locust, except in the seed pod and the seed. The bean is precisely that of the locust bean, and if the planting and treatment should be the same as would be practised in the planting and treatment of the locust, you cannot go far wrong. The tree is a rare tree here, and I was informed by the Armenian from whom I obtained the seeds, that it was a native of Persia. Its name in Turkish is *Gnul*, (rare) *Aghadj*, (tree) and is pronounced *Goolagadegh*.

POMOLOGICAL MANUAL.

The Pomological Manual or a Treatise on Fruits. By William Robert Prince, aided by William Prince. 8vo. 2 vols. in one. 416 pp. Second edition, 1832.

We are gratified to observe that this valuable work has passed to a second edition, not only as an evidence that its merits are appreciated, but as a proof that a taste so favorable to *steady habits*, is fast increasing and extending amongst our countrymen.

Another volume on apples, is in a state of preparation: the present comprising descriptions of pears, apricots, peaches, plums, cherries, almonds, filberts, hazelnuts, raspberries, and strawberries.

A treatise of this kind has long been wanted. We have had no proper text by which we could know whether our fruit trees were genuine, or not; and we recommend this work as a *book of reference* to every intelligent cultivator.

Some varieties of fruit are known by so many different names that an amateur is continually in danger of purchasing the same kind several times over. "The *virgaline* is one of the best of pears," says a friend, "you ought to have it by all means in your collection."—Another tells him, "the *St. Michael* has no superior." A third says, "the *Carlisle* is uncommonly excellent." "Nothing can be finer than the *Dean's* pear," says a fourth. "A fruit garden is not completely stocked without the *Garner* pear," says a fifth. "Get the *Doyenne* by all means," says a sixth, "it is one of the best,"—and a distant nurseryman may honestly furnish all these at different times before the purchaser may discover that he has long been cultivating them all, under the name of the *butter* pear. More than twenty-five names of this fruit are enumerated.

In the composition of this work, the author possessed extraordinary advantages: To untiring industry and zeal (and perhaps) the best library on the subject of fruit in the United States, he has added the experience of his father, one of the best informed cultivators of our country. As might be expected, numerous errors in nomenclature, have been detected.

It is to be hoped that our nurserymen, now that they have the means so cheaply placed within their reach, will spend a portion of their time in endeavoring to ascertain whether the trees which they offer for sale are genuine or not. Until very lately, at some nurseries in good repute, in many cases the purchaser had a small chance for obtaining the kind asked for, and could have no reasonable assurance that it would resemble that which had been named and described in respectable authors,—for the seller himself did not know: he had got scions under that name, but whether they were one of the numerous counterfeits that have been palmed on importers by nurserymen in Europe,—whether the name had been mistaken by some careless acquaintance,—or whether it was the true kind, he had no means of knowing.

To an honest nurseryman, it must be trying to find that he had sold spurious and inferior varieties to his customers, when he believed them to be genuine and excellent,—that he had taken their money for trees which they did not want. In such case, what ought

he to do to preserve a good conscience? He ought to say, "It was my duty to see that my trees were of the true kind. My customers depended on my care, knowledge, and integrity. I have been deceived, or cheated [as the case may be] but that does not authorise me to wrong others, even unintentionally. My customers have laid out their money for trees of a particular kind—they did not get them through my failure—but they want them, and will buy them a second time sooner than do without them. This, in conscience, I cannot permit. I have now the true kinds, and I will supply them free from charge, without delay."

The following extracts from *Mintosh's FLORA AND POMONA* deserve the attention of nurserymen: "Mr. Joseph Kirke, Old Brompton—was among the first commercial cultivators of fruits in [Britain.] who not only saw the propriety, but actually put in practice the scheme of forming a collection of trees in a bearing state, in his own grounds, from which he might be supplied with healthy and correctly-named scions for propagation, and thereby remedy the principal cause of all the confusion which has been hitherto experienced in the nomenclature of fruits; and which as a consequence, was certain to attend the antiquated mode of collecting scions wherever they could be procured, depending solely on the assertion of the individual from whom they are received as to their correctness. An arrangement of this kind pre-empted another important advantage, namely, that many fruits have been, as it were, brought into contact with each other, thereby enabling the inquiring pomonologist, by comparison to ascertain which were, and which were really not, distinct kinds; and also to determine their several merits, as well as to point them out on the tree to purchasers.

"This very rational plan has now been very generally adopted among the most respectable nurserymen; and is, we consider, one of the first steps towards establishing the nomenclature and merits of fruits."

The same plan has been adopted at the Linnean Botanic Garden; and our author remarks in the preface to the 2d volume of the *Pomological Manual*:—"The great number of SPECIMEN TREES at present under culture in the experimental grounds of the establishment whence this work emanates, is calculated to afford the most important facilities for future investigations, and for the correction of errors still existing in the nomenclature of fruits."

Figures of the fruits, either from wood or stone would add much to the appearance, and some to the value of this work; and we hope that the author will be encouraged to present them in some future edition. We take this opportunity to remark, that in different varieties of the same kind of fruit, as those of the pear, or of the apple, there are many characteristic traits which may be strikingly shown even in uncolored outlines. Of such is the *length, thickness, and direction of the stems*; and the *SHAPE OF THE FRUIT* whether *round, long, unequal, or irregular*, including the *size and figure of the persistent calyx*. The colors of fruit in different stages of ripeness, or in different situations on standard trees, vary so little, that on the whole we think that plain figures are nearly as useful as the most finished paintings—especially when we consider that the finest fruit with the finest colors, is almost always selected by artists. In these cases, they commonly sacrifice utility to elegance. T.

A new method of raising Peas.—A writer for the *Gardener's Magazine*, recommends a new mode of raising early peas, &c. This consists in having a quantity of turf cut into pieces of about nine or ten inches long, and three or four broad, which are placed in a regular manner over the surface of a hot bed, grass side downwards, and a row of peas is sown on each row of turf, and afterwards covered with soil; when they are fit for transplanting, no more is required than to lift out the turf, piece by piece, with the peas growing upon it, and placed them where they are to produce the crop.

AGRICULTURE.

(From the Southern Agriculturist.)

REMARKS ON THE RED AND THE WHITE CLOVER.

"Rocky Grove, Abbeville District, }
25th April, 1832. }

Dear Sir,—The following remarks on the cultivation of Red Clover, with some few on White Clover, are not the result of my own experience, for, until the present year, I have never sowed any, under the impression that our sun was too hot and our soil too arid for its successful cultivation; but they are the result of much reading, inquiry and reflection on the subject, and from witnessing three successful experiments made with it in my neighborhood on a small scale. I investigated the subject in order that I might form an opinion for myself whether or not it could be successfully cultivated in this state; in doing which, I took notes of whatever I thought material, and relying most upon the writings of the Virginia and North Carolina farmers, as their climate approximated nearer to ours than that of any other considerable growers of that grass whose writings I have met with; and having, upon this investigation, been induced to sow fifteen* acres of it this spring, a portion of them for mowing and the remainder for pasturage, I reduced these notes for my own use into order under separate heads for obvious reasons. If you think they will be acceptable to your readers, you are at liberty to publish them, or if you have more interesting matter to give us, unhesitatingly toss them into the fire.

Kind of Soil.

Agriculturists agree that red clover will not succeed on a wet soil; but they differ much as to the soil best adapted to it. Mr. Hugh Rose of St. Thomas' parish, not very far from the sea-board, has cultivated it with success on a stiff tenacious clay; whilst the editor of the Southern Agriculturist has seen it succeed in high sandy soil, near the sea-board too, if I understand him correctly. Mr. J. E. Calhoun has succeeded well with it in Pendleton district, near the mountains; and with Col. B. H. Saxon, in Abbeville district, it has grown luxuriantly both on a high, loose, brown, loam, or dark mulatto soil, and also in a firm, deep, dark grey soil, somewhat flat and inclined to be moist, though very far from being wet; both of the above soils having a stiff clay foundation: and in the neighborhood of Cambridge, I am told it has succeeded well on the high mulatto soils, which are generally loose and deep, on a stiff clay. A writer in the American Farmer says, "it prefers a light sandy or loamy soil, and will with the assistance of plaster thrive well upon gravels." In the Domestic Encyclopædia, it is said to thrive best on a firm, heavy soil, whilst in the Encyclopædia Americana, a preference is given to a deep sandy loam, though it will succeed, it is there said in any soil not too moist. From all the information I have collected on this point, I think a soil with a stiff clay below is probably best adapted to it. In the upper country of South Carolina, I would prefer a loose mulatto soil, when the clover is sown in the spring, and a firm heavy one if sown in the fall, for reasons hereafter given; but I believe it will succeed in any but a wet soil.

Preparation of the Land.

Clover being a small and light seed should be sown on land well pulverized by the culture of some previous fallow crop; or the land should be well ploughed, cross ploughed and harrowed so as effectually to loosen and pulverize the soil, break the clods and destroy the native grass. If it is intended to sow it with small grain, the land should be harrowed or brushed with a heavy brush after the small grain has been ploughed in before sowing the clover seed.

Choice of Seed.

Clover seed is too often heated in the sowing, which destroys its vegetating powers; the good or bad quality of the seed may be discovered by filling a glass tumbler half full of water and dropping a few seeds in: those that sink are good, those that swim are generally deprived of their vegetating powers. If the seed is plump and of a deep purple, or a bright yellow with a good quantity of purple and brown mixed with it, it has arrived to maturity; but if of a faint color, it has been gathered when unripe. Clover seed when properly gathered and perfectly ripe will continue to vegetate for four or five years.

Time of Sowing.

Clover may be sown in the fall or in the spring.—If sown in the fall, October is to be preferred in this State, and the earlier in it the better, that the young clover may acquire strength to resist the winter frosts; it may, however, be sown from the latter end of September to the middle of November. If sown in the spring, it had best be done the latter end of February or early in March, that it may attain a sufficient growth to stand the warm weather; but it may be sown from the middle of February to the middle of April. Some of the Maryland and Virginia farmers sow it in the fall; but most of them sow in the spring. So little clover has been cultivated in this State, that it is difficult to decide whether the fall or spring is the preferable time; but a sufficient number of successful experiments have been made, to prove that either time will answer, unless the season is indeed a very unfavorable one. If clover is sown in the fall in the upper country, I would prefer sowing it on a firm, heavy soil; or if sown on a light one, I would sow it on wheat in preference to oats. The winters are often sufficiently severe to destroy fall sown oats entirely on light soils or mulatto land, (which last the frost takes a greater effect upon than any other soil, so much so as to spew the land up as it is termed) and when the oats are destroyed, I fear the clover would be also, either by the cold or from want of a protecting crop in the spring and summer; whilst oats sown upon a stiff firm soil have borne without injury the severest winters. So, also, a field with a southern aspect should be preferred for fall sowing. I am led to this opinion from the following fact. In October, 1827 or '28, I sowed oats in a field which sloped from the north and the south sides downwards to the centre. There were severe frosts that winter. The oats on the southern part of the field, which sloped downwards towards the north, were killed to a plant; whilst the oats, on the northern part of the field, with a southern aspect, were unharmed; the soil and all other circumstances precisely the same.

Quantity of Seed to the Acre.

There is a great diversity of opinion on this subject. Some sow only four quarts and others as high as ten quarts to the acre, when intended for hay or seed, but less when for pasturage. In Loudon County, Virginia, the usual quantity is four quarts per acre when intended for hay or seed, and two quarts when for pasturage. In Maryland six quarts in the first case and four in the second. In Pennsylvania four quarts. A writer in the American Farmer says, "from six to ten quarts may be sown to the acre; there is little danger of its being too thick. Soils require more or less seed in proportion to their richness, poor soils requiring the least." "More seed is required for spring than for fall sowing." Mr. Hugh Rose says four quarts of seed are sufficient. If a farmer has plenty of seed I cannot conceive of any good reason why as much seed should not be sown for pasturage as for hay or seed. In all these cases, seed which has been well cleaned from the chaff is meant; for where seed is sown with the chaff, the usual quantity is a bushel to the acre.

Manner of Sowing.

Clover being a very tender grass when young is liable to be destroyed by severe frosts in winter if

sown in the fall; and by warm, dry weather when sown in the spring; on which account it is generally sown with or on small grain, which protects it in its young and tender state against the frosts and the sun. Clover will succeed well in South Carolina without any protecting crop if sowed by a mild winter, or a cool dripping spring, as proved, on a small scale, by Mr. Hugh Rose, in the lower country, and Col. Saxon in the upper; but the agriculturist should calculate on having the usual seasons. From the frequent severe winters in the upper country it would probably fail nearly as often as it would succeed if sown without a protecting crop; and I have witnessed a sufficient number of warm, dry springs to make me hesitate about speculating on a cool dripping one: and even if such a spring should occur, it must be sown in drills and worked well, or our native grasses and weeds will destroy it; to do which would consume time, not to be spared at that season of the year where cotton is cultivated as a market crop.— Besides sow it as you will, you will receive no crop from it the first year, as far as I can discover; whilst if sown with, or on small grain, you will get a crop of that without any additional trouble. For these reasons I think it would be prudent to pursue the usual course and sow it with small grain until more experience on the subject shows the other to be the preferable one. Mr. Hugh Rose, however, is of a different opinion; but as this opinion seems founded on a single experiment, its correctness may be doubted without any disrespect to that gentleman's opinion; and, besides Mr. Rose, I have met with no writer who recommends sowing clover without a protecting crop of small grain or some lardy grass, such as orchard grass, ryegrass, or blue grass, &c. The question, however, is not merely whether to insure success with red clover in this State, it should be sown with a protecting crop or without it; but also whether the success without it is so much greater as to compensate for the loss of a crop of small grain which in the upper country is an important consideration, as wheat is there cultivated with success as well as other small grain. In two out of three experiments made with red clover in this neighborhood by Col. Saxon, he sowed his clover with his oats in the spring; he obtained a full crop of oats and the clover succeeded perfectly. Fall sowing, without a protecting crop, would succeed better in the lower than in the upper country, for there the winters are considerably milder. In Europe, and throughout the United States, even as far south as Virginia, clover is usually, perhaps, I might say invariably sown with a protecting crop of some kind. In sowing clover the field should be laid off in lands not more than eight feet wide on account of the lightness of the seed, and if it is intended to sow clover in the spring of the year on small grain sown the previous fall, the small grain should be ploughed in with a shovel or mould-board plough, as they leave water furrows, which from their width and depth will be sufficiently plainly seen in the spring of the year to save the trouble of staking off the field at that season for sowing the clover. The field should then be levelled either with a harrow or heavy brush.— Clover being a very light seed, can be sown regularly only in calm weather. Where it is extensively cultivated, it is generally sown in the chaff broadcast; but if the seed has been freed from the chaff, &c. there are four ways of sowing it.

1st. Mix the seed with sand, ashes, &c. and sow it as turnip seed or any other small seed is sown, broadcast; or,

2d. Take as much of the clean seed as can be held between the thumb and two fore-fingers for every two casts or steps, and let the casts not exceed the width of the lands; or,

3d. Sow it with one of Bennett's drills, made for that purpose; or,

4th. A box may be used, made as follows, viz: seven feet long, five inches deep, and five inches wide, of light half inch plank. The box should be divided

* Two of my neighbors have also sowed this spring an equal proportion.

into seven parts, each division having two holes bored through the bottom half an inch in diameter and placed diagonally. Square pieces of stout paper are to be pasted over the holes on the inside of the box, and a hole must be burnt with a coarse knitting needle through each paper. At about one-third of the distance from each end of the box should be fastened strong leather straps by which the box is held (or rather which passing over the shoulders of the sower supports or hangs the box) and a little agitated in carrying before the sower, in a direction crossing the lands while he walks along the lands.* If this mode of sowing is adopted, the lands should be laid off not quite as wide as the box is long. The seed can be sown broadcast with greater regularity with this box than in any other manner. If clover is sown in the spring on small grain which was sown in the fall, it is recommended to harrow in the seed with a light harrow or much will be lost; which operation, it is said, will benefit and not injure the small grain.—(This appears to me to be a harsh operation, nevertheless, I will try it on a small part of the wheat.)—Clover is often mixed and sown with other grass seed, such as Timothy, Orchard, Rye, Blue grass, &c. in the proportion of two of clover to one of the other. It is said that none of these foreign grasses succeeded well in our State, but the same thing has heretofore been said of clover. Dr. Frost saw in Abbeville district a patch of blue grass growing so luxuriantly as to induce him to urge me to try it; and at Dr. Reid's, in my neighborhood, is a patch of the same grass, which has succeeded well. Blue grass is said to be an antidote to the effects which the second crop of clover has upon stock, and to be a beneficial grass to the grazier, but a pest to the farmer if injudiciously managed. Clover is sown indiscriminately on wheat, rye, and oats, but is most generally sown on wheat. I would prefer sowing it with or on the latter as it bears the winter better than oats and is cut before either of the others, and the sooner the protecting crop is cut after the clover has attained strength enough to withstand the sun and compete with the native grasses and weeds, of course the better. Clover seed should be covered very lightly, if covered at all; but from the experiment I made this spring, I think it ought to be covered, but as lightly as possible. At the north it is frequently sown whilst snow is on the ground; in Kentucky, I am told the practice of some is to brush it in lightly, when it has not been sown on the snow.

Mowing.

Clover yields not less than two crops each year.—The first stands unrivalled for hay; from the second, seed only is generally saved, as the hay from this crop is said to salivate horses, though it will answer for other kind of stock. Mr. Hugh Rose, however, in the lower part of this state, cuts his clover twice, viz: early in May and late in July and then permits it to go to seed; but as the clover patches, I have seen growing in Abbeville district, were not fit to cut for hay until some time in June, but one cutting for hay can be calculated on there. It should be mowed after it is in blossom and "before the seed is formed. After being cut, the clover should remain in the swath until it is divided about two-thirds its thickness; it is then not strewed but turned over; the hay should be as little shaken or scattered about as possible." Another writer in the American Farmer, directs it to remain in swath from a day and a half to two days, then rake it into winrow and cock it; it being a very erroneous practice to spread it in the sun and turn it in. In 2d vol. same work, p. 60, it is said, "when the half or more of the clover heads are turned from red to brown, and on the decay, it is the right time to mow it. Some make clover hay, by following the mowers, and spreading the swaths as soon as the dew is off, and making it up into cocks before night; some make it into cocks immediately after the mow-

ers. It is a hay that requires great attention in curing, as the heads and leaves will bear little stirring without crumbling; it is, therefore, best to rake it after the dew falls in the evening. The hay is put into the stack or barn the day after it is mown, and to secure it from becoming over heated or mildewed, some sprinkle salt alternately between each layer of hay, which assimilating with the juices of the hay, prevents too great a fermentation; some put a layer of straw between load and load of it; the straw contracts so much of its moisture, that the cattle eat it free.—Where straw or salt are not used, it is usual to make a funnel in the centre of the stack to admit the air.—This may be simply done, by placing or leaning five or six rails against a centre pole to stack the hay around." When salt is used in saving clover hay, the quantity used is from half a bushel to a bushel per ton.

Saving Seed.

Some farmers, when the clover is sufficiently ripe, mow it—rake it into winrows as fast as cut—stack it as soon as convenient under cover or before rain if possible—and when wanted spread it on the treading floor and tread it out with horses—separate the straw from the chaff and seed, and clean the seed from the chaff or not, as they prefer. Seed sown in the chaff is said to vegetate quicker than the clean seed, the covering of the seed retaining moisture. Cattle will eat the straw when saved in this way. Some rake the clover into small heaps as soon as mown and expose it in the field for several weeks to promote the decay of the husks and turn the heaps in wet weather. When the husks are sufficiently rotten which may be ascertained by rubbing the heads between the hands, these heaps are removed early in the morning or in damp weather, to prevent too great a loss of seed, and housed; but by this method the hay is lost as food for cattle, though it answers well for littering the stable with and making strong manures. But by both of these methods the seed is more or less liable to be heated in the saving, unless judiciously and carefully done. One of the above methods is the course pursued by the majority of farmers. Some farmers use a machine for gathering the seed, very simple in its construction, drawn by one horse and guided by a man or boy. "It consists of an open box, about four feet square at the bottom, and about three in height on the two sides and back-part, the fore-part is open, and has fingers fixed to it either of hickory or steel, like a comb, about thirteen inches long, and so near as to break off the heads from the clover stalks between them, which are thrown back into the box as the horse advances. The box is fixed on an axle-tree, supported by two small wheels, about (sixteen inches or) two feet in diameter; two handles are fixed to the hinder part, by means of which the driver, while he manages the horse, raises or lowers the machine so as to take off all the heads of the clover."* Hoed rakes or cradles are also used for this purpose, which suit small farmers still better, and which are made of different sizes, in proportion for men, women and children. This instrument is made of a thin board eighteen inches long and ten broad. The fore-part of it to the length of nine inches is sawed into fingers; a handle is inserted behind, inclining towards them, and a cloth put round the back part of the board, which is cut somewhat circular, and raised on the handle; this collects the heads or tops of the grass, and prevents them from scattering as they are struck off by the cradle.† These hand machines may be dragged over the cleanest parts of the clover so as to avoid the seeds of weeds, which the horse rake collects indiscriminately. A well grown boy or girl

will, is said, collect, with one of these hand-rakes or cradles four dozen barrels full, well packed, in the space of six or seven hours, equal to a bushel of seed. The seed collected either by the horse or hand-rake, is not liable to be heated as when saved by mowing the clover, but the second crop of hay is lost unless it is mowed immediately after saving the seed. The trouble of saving the hay and the seed by mowing it being the least, is the manner usually pursued, but that by the horse or hand-rake will more certainly provide good seed.

Produce per Acre.

Mr. J. E. Calhoun from a little less than an acre in Pendleton district, hauled off "four large wagon loads of hay, as much piled on, as four large mules could draw." Col. B. H. Saxon, from one-fifth of an acre in Abbeville district, got near one ton of hay. This clover patch of Col. Saxon's was, it is true, very highly manured. Besides this hay, seed can be collected worth from \$4 to \$8 per bushel, and a great deal of inferior hay for cattle or for making manure with. A farmer of Culpepper County, Virginia, writes that from an acre lot of clover and orchard grass mixed, eight or ten head of cattle or horses, may be furnished with green food, from April until frost, and the cutting of it may commence when the clover is from twelve to eighteen inches high. An acre of clover, it would appear, may be safely estimated to yield as much hay as ten or fifteen acres of corn will yield of fodder; and the saving of labor will be very great in favor of the clover. It is true, however, that the clover must be cut and saved at the very moment when in the working of the cotton crop, time is very precious; whereas corn-fodder is not ready for gathering until some time after the cotton crop is laid by.

Its use as Pasturage.

Red clover is said by some farmers to be preferable to any other kind of grass as pasturage; but Col. Taylor of Virginia, prefers the white, the treading of the ground seeming necessary, he says, for the existence of white clover, whereas red clover if severely grazed on stiff land, will be eaten out by white. Clover, red or white, forms an excellent pasture for all kinds of stock, but for hogs, red clover is particularly valuable. They should be turned in as soon as it is in blossom, (but not before,) and will thrive on it exceedingly, and if well salted will continue to do so as long as the clover lasts. They graze on it without attempting to root, and will not require to be fed with corn. Some writers, however, say, that it is best to turn all stock off after July, as the second crop is injurious to them all, especially to horses, and it makes the best seed. The second crop is said to act as a diuretic on animals that chew the cud, and to salivate horses and hogs. Distillers in Loudon County, Virginia, who attend to the raising of hogs, cultivate red clover as the principal support of their large stocks in the warm weather, when from necessity their stalls are idle. Blue grass is an antidote to the effects of clover, is a fattening and beneficial grass to the grazier, but is a pest if injudiciously managed to the farmer. In the Domestic Encyclopedia, "hogs (are said) to thrive exceedingly upon clover; and when soiled no food is more economical;" but in the Encyclopedia Americana, it is said, that the late Judge Peters of Pennsylvania observed, "that swine feeding on clover in the fields, will thrive wonderfully; when those, confined or not, fed on cut clover will fall away." "Red clover should never be touched by the tooth or hoof until it blooms."

White clover is a natural grass of the United States. When sown by itself it does not grow tall enough to be cut with a scythe; but when mixed with timothy or other grass makes excellent hay. It is, however, chiefly used as pasturage. Col. Saxon, in my immediate neighborhood, has for many years had a large pasture of it. He told me in a conversation I had with him on the subject that "white clover makes

* See 1st vol. American Farmer, No. 32, p. 252, for cut; also, see cut in 2d vol. Domestic Encyclopedia, p. 149.

† For cut, see Domestic Encyclopedia, 2d vol. p. 149; and American Farmer, 1st vol. No. 35, p. 279, for cuts of a very similar instrument.

* For cut, see 2d vol. American Farmer, p. 60.

An excellent spring pasture and prefers a moist soil; it comes in very early, long before the common grasses of our country, but disappears about the middle of July or early in August. Stock of all kinds are fond of it, but it salivates horses from the time the seeds begin to ripen. It prefers a close moist soil, and after it has once taken possession of land, it may be continued for many years by occasionally stirring the land with a plough without sowing any more seed." I have now lived nine years in his neighborhood; I found this pasture there when I came, and it is still as good as ever; and my own observations on it, satisfy me that the above statement is correct, notwithstanding that Mr. Elliott, in his Botany of South-Carolina and Georgia, says, it is eaten sparingly and reluctantly by stock of any description. "Sheep," (says Mr. Thomas Saxon,) should not be kept continually on it, but should be occasionally turned off for a few days, or they will decline." Swine thrive well on white clover, but care should be taken to ring them before turned into pasture or they will root; a precaution which is not necessary with red clover if they are not turned on too soon and taken off in proper time.

Duration.

In the 2d vol. of Elliott's Botany, it is said to be a perennial plant; about the year 1817, Mr. Hugh Rose sowed a patch which lasted five years. A writer in the American Farmer says, "after frequent repetitions clover fails; on a dry soil it will last three years; from the first crop there is no seed worth gathering; the second crop grows more even and comes sooner to maturity; the successive crops deteriorate every year, until eluded with weeds or grass." In 1829, Col. Saxon sowed a patch in this district, and in 1832, it is still growing luxuriantly, though not so much as the last year, and the weeds appear to be increasing in it. Where clover is cultivated extensively, it is not customary to allow it to occupy the field longer than three years including the year it was sowed, and more often only two years. Whether this course is pursued because the successive crop deteriorates, or because it runs out, or to get the advantage of a clover lay as manure, or from pursuing with regularity a rotation of crops, I have been unable satisfactorily to ascertain; probably all or several of these reasons may influence the course pursued. In the 2d. vol. American Farmer, p. 15, it is said to be generally necessary to sow clover every time after the land is cultivated; but neither Mr. J. E. Calloun or Col. Saxon found it to be so from their experiments. These two experiments, may, however, form exceptions to the above rule, which though laid down as a general one is still so expressed as to show that there are known exceptions to it. When land becomes clover sick, as it is called, from having been cultivated many years in clover, the clover must be discontinued for three or four years, and some other crop substituted. From half a bushel to one bushel of plaster of Paris to the acre, sowed in the spring on clover, is said to produce an astonishing improvement in it.

Yours, respectfully, THOMAS PARKER.

HORTICULTURE.

(From the Horticultural Register.)

ON SUPPORTING NEWLY PLANTED TIMBER TREES.

Wiltlesley, Dec. 10, 1831.

GENTLEMEN—Various have been the methods resorted to, for supporting newly-planted forest trees, but none that I have ever met with, seem to equal the system I am about to explain; all the usual methods have proved partly ineffectual, as they have invariably caused either a partial or total destruction of the trees they were intended to preserve. To prevent the evils arising from the friction of stakes and bandages, many plant their trees so deep, that to avoid

destroying them one way, they actually do it another. By this improved method, the trees are not only freed from that danger, but the unsightliness of stakes, &c. about a nobleman's or gentleman's ground, is entirely done away; the stem appearing as free from any prop and yet standing as firm as though the tree had been planted fifty years. Nothing can give a clearer proof of the utility of this method, than the newly planted trees I observed at Chatsworth, which are six times larger than any I ever before saw removed; and yet these trees stand as erect and areas completely covered with foliage, as though they had continued there many years—and all this, without the least particle of a support to be seen. This, at once, gives the system a decided advantage over every other; for what could have looked more objectionable than to have seen them propped up with a parcel of huge stakes, to say nothing of the extra expense and trouble which such stakes and bandages would cost. The method, I understand, has already been sent into the world as a new one, and I give the publishers of such a system credit for so doing. My motive in writing is to substantiate what they have made known, and to show it as plainly as I can to your numerous readers.

About twenty years ago, I was employed to remove some trees that had been planted and supported in this way, about thirteen years before, when I found the wood perfectly sound and the support as firm as ever. For five succeeding years, I was present at the removal of great numbers of large trees, which were planted in an open lawn, as detached objects; and I had the satisfaction of seeing every tree keep its erect position; nor did I, during the whole of five years, ever meet with an instance in which the system failed. I made every inquiry as to the origin of so complete a plan, and found that the person employed as the manager of the woods, had practised it for upwards of thirty years before at several nobleman's and gentlemen's seats, to which he went as an instructor in the art. Whether the invention originated with Sir Henry Cavendish, of Doveridge, or not, I am not prepared to say; but he certainly introduced it into Derbyshire about that time, and to his lasting credit, gave an entire new feature to his domain by beautifying his grounds with large trees, as erect and independent of the storm as if they had been raised on the spot.

The support, consists of three straight pieces of wood, laid in a triangular form, proportioned according to the size of the tree, and three hooked stakes. When the tree is placed in the hole, the roots spread out, and the earth, after being broken and pulverized, well shaken amongst them; the three straight pieces are placed in a triangular form round the stem of the tree, on the top of the ball; and the triangle made large enough for a hooked stake to be driven in at each angle, so as not to injure the ball of earth at the root. The support thus completed, the earth is filled in, and the tree stands perfectly fast. In some situations, it is advisable to make holes for the hooked stakes with an iron bar. The stakes must be driven down sufficiently deep for the turf to be laid evenly over the top. It appears to me, to be of little consequence what kind of wood the supports are made of; I have always found that any sort would last as long as it was necessary.

Nothing, however, that I can advance in favor of so excellent a system, will be half so convincing as the planting of a single tree; and by properly applying the materials, no person could have the shadow of a doubt of the tree standing as securely as when growing in its original situation. I remain, gentlemen, yours, very respectfully, GEORGE STAFFORD, Gardener to Richard Arkwright, Esq. Wiltlesley Castle, near Cromford, Derbyshire, England.

Why are some fruits improved in sweetness by drying or half withering on the trees?

Because their watery parts thus exhale, and the sugar is virtually increased in quantity.

RURAL ECONOMY.

(From the Library of Useful Knowledge.)

THE MOUNTAIN SHEPHERD'S MANUAL.

PART III.

DISEASES.

It is proposed to pass over such diseases as are either of infrequent occurrence, or seldom fatal; and to attend to those chiefly which are attended by risk, or reduce sheep to a bad condition. Much has yet to be learned in this department; and even should the knowledge of the disease of sheep become more extended and precise, we may still keep in mind the old and true saying, that prevention is better than cure. *The grand object for every shepherd is, carefully to observe and consider what may be the cause of disease, and to make such experiments in the management of the flock as will enable him to ascertain whether his conjectures as to the causes be correct, and if so to avoid them as much as possible for the future.* He ought to make himself thoroughly acquainted with every part of the farm, in respect to soil, dryness, moisture, and the plants growing on different parts of it, and to guide his sheep accordingly. There is infinitely less trouble in this, and less expense, than in doctoring, and it affords also considerable intellectual exercise and enjoyment, as well as pecuniary profit.

BRAXY.

Perhaps there is no disease to which sheep are liable, to which the preceding observations more strongly apply, than to that most destructive one known under the names of Braxy and the Sickness. It chiefly attacks lambs about the end of autumn and beginning of winter; and is, unhappily, a disease, the symptoms of which can seldom be observed till all hope of cure must be given up. Under the name of Braxy, seem to be included several varieties of inflammatory affection, and it would appear that general inflammation of the whole body sometimes occurs. Inflammation of the bowels seems to be the most common form—When a sheep is observed to be restless, lying down and rising up frequently, and at intervals standing with its head down and its back raised, and when it appears to move with pain, inflammation may be suspected. The progress of inflammation excites great pain; but when mortification comes on the pain ceases; and thus we may sometimes account for an animal dying suddenly while apparently well. The causes of inflammation may be various. Costiveness from eating hard dry food, drinking cold water while the body is overheated, or being plunged into cold water while in that state, or suddenly chilled by a shower of rain or snow, may bring on this destructive malady. Feeding on strong rank grass is also strongly suspected of inducing braxy, whether that which has been too much sward, or that which grows about the tathie where cattle have been grazing. Along with long rank leaves, others that are decayed and rotten or flaccid may be eaten, and together with the too large quantity of such rank food, which young sheep are apt to swallow, contribute to excite fermentation; and this, from the extrication of air, swells out the intestines, preventing due rumination; and thus while the food itself is vitiated and does mischief, the overstretching of the bowels causes inflammation.

To obviate such causes, it may probably be advisable to smear the hogs a month or six weeks earlier than the rest of the flock. This will operate in two ways. First, it will defend the animal from wet and cold; and next, the irritation excited on the skin by the smearing stuff, if containing tar or turpentine, contributes to remove any tendency to inflammation from the internal parts. This is a circumstance perfectly understood among medical men, who in ordinary practice apply stimulating matters to the skin for this purpose; and it is in this way that blisters act.

As, about the end of autumn, the vegetation of the grasses becomes feeble, and the leaves become soft,

and in moist weather rot, it will be of importance to keep the sheep away from the richer pastures, until the decayed leaves become dry. And in order to reduce the pasture to a proper state, it may be useful to allow old sheep to graze upon it for some time previous to the hogs being put on; and thus the grass will become short and free from rotten leaves. This will have another advantage; it will prevent the hogs from filling their paunches too rapidly. They should be driven from the succulent pasture to that which is drier, every night. The value of turnips, alternating with dry, hearty food, is immense, in preventing this destructive disease. Four or five hogs on turnips in the twenty four is quite sufficient.

It has been observed that this disease appears earlier in the season on lands where the grass has been preserved, and at a later period where it has been regularly depastured. It ceases when winter sets in, but appears again in the spring. It is most prevalent where the ground is dry, and the heath mixed with fine grass, and especially where fern grows in abundance. Sheep feeding on strong clay land are not apt to be affected; and the same may be said in respect to mossy soils which carry evergreen plants.

It is of much importance to observe this disease, and to record every fact connected with it. The writer of this manual, many years ago, proposed, while he was convener of the Prize Committee of the Highland Society of Scotland, that premiums should be offered for essays on the diseases of sheep. Mr. Stevenson, a very respectable surgeon, sent in some valuable observations he had made; and it is believed his cases being repeated here will be attended by beneficial effects, both in regard to furnishing symptoms and modes of cure. The following are selected.

Case 1.—In the month of November, the 18th, if I recollect right, 1803, a young sheep was brought home by the shepherd, affected with sickness.* The wool was clapped, the eye was languid, red, and watery. There was great heat over the body. The mouth was dry, the breathing quick, and somewhat difficult. The pulse beat frequent and strong; and its limbs seemed scarcely able to support it.

The tail was cut across in two places, when a considerable quantity of black thick blood flowed from it. As no glauber salts could be had, a handful of salt was given it, dissolved in warm water, from a teapot; it was put into the house, and the door shut. In about half an hour it was laid down upon some straw, and appeared very weak. On approaching it, it rose, but could scarcely walk. The tail was still dropping blood. In two hours after, it was standing, and ran away to the other side of the house when it was approached. The eye was rather more lively, the tail had ceased bleeding, and it walked without any difficulty. In two hours more it was eating some hay that had been given to it, and the salt had purged it very freely. It was kept in the house all night; and next morning when led out to the park at the back of the house, it ate a little. The wool was still clapped, but the eye was lively, and the burning heat was gone off the skin. The purging continued all day. It was again put into the house at night. Next morning, when let out, it seemed quite well,—are very well during the day; and next day was sent to the flock. It had no relapse.

Case 2.—On the 7th of December, 1804, another sheep was brought home: the shepherd had seen it affected in the morning, but it was not brought home till a ter dinner, on account of the distance. When brought home it could not stand, which we attributed to the tying of its feet, for the purpose of being carried home a distance of nearly four miles.

The eye was dull, wool clapped, pulse quick and strong, mouth dry, breathing very quick, and a kind

of palpitation at the heart. When the shepherd laid it down from his back, it made some water, which was red like blood.

On cutting the tail, two or three drops only of blood, black and thick like tar, followed the incision, which, however, soon stopped. The vein on the inside of the fore-leg was opened, from which also no more than two or three drops came, of the same black and grumous appearance. The ear was also cut in the inside, but little or no blood came from it. An ounce and a half of glauber salts were given in a pint of warm water, and an old blanket thrown over it.—In three quarters of an hour, the tail was bleeding very freely, but the other places had stopped. The animal was laid down and could not rise. The pulse was quick, and it was apparently very sick. In the evening, about two hours after, it was much in the same way, only the skin was not quite so hot.

It got a little meal boiled in water, and the blanket was left on it during the night. On looking at it next morning, it was risen, but scarcely able to walk.—The tail had bled a considerable quantity, and it would not eat. The wool was clapped to its body, and it still had a very languid appearance, (probably from the blood it had lost.) It got a little more boiled meal and water, and the salts had operated. In the afternoon it was eating a little boiled hay, and from this time gradually recovered, without any other application. It continued very weak for about eight days, when the wool was risen to its usual appearance, and it was sent to join the flock.

As the sickness did not appear in the flock, I had no opportunity of again trying the practice at that time.

Case 3.—In the beginning of March, however, 1804, at which time the weather was very cold, a young sheep or hog was brought home in the afternoon gasping for breath, pulse very quick, eye quite blood-shot, skin remarkably hot; had been observed not eating in the morning, and seemed even then remarkably languid, but made no motion as if affected with pain.

On cutting the tail across a few drops of blood, like tar, followed, but stopped immediately; the ear was cut, the neck-vein was opened, the vein on the fore-part of the belly, as was also that on the fore-leg, from none of which above a drop or two came. A dose of salts was given, and it was covered with a blanket. On going to look at it, about an hour afterwards, it was dead. On opening the body, the fourth stomach was found mortified over all its upper and fore part, which extended to the place where it joins the bowels, which were all quite red, as were the stomachs in a lesser degree. The internal coat of them all was very loosely attached, and the smell was extremely disagreeable; there was a reddish or livid appearance over the whole body, which arose partly from the blood not having been drawn from the animal, but more particularly from the previous inflammation that had existed. The right auricle of the heart was quite full of the same dark kind of blood that came from the incisions made before death, and the whole flesh was quite soft.

Case 4.—On the 14th of November, 1803, a young sheep was observed affected with sickness, belonging to a friend, during the time I was on a visit at his house. He had ordered it to be killed, alleging that sickness was uniformly fatal; but was easily persuaded to try something for its relief, as if it succeeded, it might be advantageous in cases of a similar kind.

The appearance of the sheep, upon viewing it, was by no means favorable for a trial. The wool was clapped, the eye was red, the pulse strong and full, the skin very hot, breathing laborious, with considerable wheezing, and it was scarcely able to stand.—The belly was somewhat swelled, and the mouth quite parched.

It was bled as had been described, in the tail, neck, fore-leg and hind-leg, belly and ear, from which there was a little blood got, of a dark color. As no glauber salts could be had, a handful of salt was given to it

dissolved in a teapot full of warm water, and it was left in a house by itself. In half an hour it was laid down, and we thought it dying. On going to it, it rose, but could not walk. The tail was bleeding pretty freely, and the blood flowing from it was rather of a redder color, the pulse was quicker, but not so strong, and the other wounds had bled a little; the symptoms were not increased, but did not seem better.

As there happened to be some salt-petre or nitre in the house, we gave it a tea-spoonful of it in another teapot of warm water; but reserved the half, which was afterwards given, at the interval of an hour, when the heat was rather less, and the skin somewhat moist. At the end of the second hour it had made a considerable quantity of water, and seemed rather more relieved. In two hours more the salt had operated, and the wound still continued dropping.—It got a large teapot full of meal and water. Next morning it looked much better, but would not eat.—In the afternoon, however, it ate a little boiled hay which it lived on for two days, when it was put into a park by itself. In two days more it was sent to join the flock.

Case 5.—In the month of April, 1804, when the weather was unseasonably cold, on the 12th, a hog was brought in, affected with sickness. It was observed by the shepherd at mid-day, and was brought home in the afternoon. It was bled in the tail, from which a considerable quantity of blood came; it got a dose of glauber salts, and had two tea-spoonfuls of nitre, dissolved in a quart of boiling water, of which it got a pint every two hours. At bedtime the tail continued bleeding, and seemed rather easier. On looking at it next morning, it was stiff, having died in the night.

On opening the body, the general redness apparent in sheep dying of the sickness, was very observable. The bowels were all affected, but none of them seemed to be the immediate seat of the disease, as no mortification was apparent in any of them. The flesh of the body was all of a livid hue, and the inflammation seemed to be generally diffused over it. Black clots were found in the right auricle and ventricle of the heart, and the food in the stomachs might have been rubbed between the fingers, like dry sand or chaff.—There was also a redness observable in the brain.

I have had many more opportunities of making experiments upon sheep affected with sickness, a detail of which, after what hath already been said, would be uninteresting. Taking the average, however, of those that have been affected, I have been enabled, by the practice laid down, to save three out of five. The proportion is even greater; but allowing for contingencies, such as their being nearly dead before being brought home, I have stated this as the proportion:

Number affected	-----	25
Died	-----	9
Recovered	-----	16

BRUCKSHACK.

This disease is sometimes regarded as the same with Braxy; but it occurs at a different season, during summer, and early in autumn. It is probably inflammatory, and is brought on by overdriving and consequent overheating, and the impatience of shepherds making too much use of their dogs.

DIARRHŒA.

Purging seldom proves fatal to sheep. It is sometimes of service to their general health, and ought never to be stopped too soon. But this complaint sometimes proceeds so far as to bring on great debility, if its violence be not checked. When the flux is moderate, change of diet, from soft to dry food, for a few days, may effect a cure. But if the purging be considerable, a quarter of an ounce of prepared chalk may be given in an English pint of cows' milk, a little warmed. The dose may be repeated at the end of two days, if symptoms of amendment have not appeared. If the purging be very violent, and attended by straining, the first dose should be a dram of

* This is the name which Mr. S. uses; but braxy is the most common name for the disease treated of.

rhubarb, and after it has operated chalk may be given. When cured, the animal must be gradually accustomed to its pasture, otherwise the tender rich grass may occasion a relapse.

DYSENTERY.

This disease, which may be termed a violent diarrhoea, or looseness, is known in different places by the names *cling*, *breckshuack*, and *braxy*. A sheep affected by it lies down frequently, and rises again at short intervals. It voids faeces very often, almost every time it gets up. It eats little, and does not chew the cud.

When the disease has advanced a little, the faeces become mixed with blood and slime. At a more advanced stage they are black and stinking.

Dysentery is distinguished from ordinary diarrhoea by the following characters:—

1st. Diarrhoea attacks chiefly hogs and weak two-year-old sheep; whereas dysentery is frequent among such as are older.

2d. Diarrhoea almost always occurs in the spring and ceases about June, when dysentery only commences.

3d. In diarrhoea there is no fever or pain before the stools, as in dysentery.

4th. In diarrhoea the faeces are loose, but in other respects natural, without any blood or slime; whereas in dysentery the faeces consist of hard lumps passed occasionally; the rest being blood and slime.

5th. There is not that degree of bad smell in the excrement, in diarrhoea, which takes place in dysentery.

6th. In dysentery the appetite is totally gone; in diarrhoea it is rather sharper than usual.

7th. Diarrhoea is not contagious; dysentery highly so.

8th. In dysentery, the animal wastes rapidly, but by diarrhoea only a temporary stop is put to its thriving, after which it makes rapid advances to strength, vigor, and proportion.

9th. Dysentery is commonly fatal, diarrhoea rarely, unless the animal has been previously much debilitated.

As dysentery is frequently attended by inflammation, bleeding will be proper, and also a purge. Afterwards the following doses should be daily administered, until symptoms of recovery appear, which will be very soon. The day after the bleeding and purging, half an ounce of chalk, mixed up in warm milk. Two hours afterwards, a gill of warm water into which has been put half a table-spoonful of tincture of terra japonica, and thirty drops of laudanum. The diet should consist of hay, sprinkled with salt.

CASES OF DYSENTERY.*

On the 12th of August, 1800, a sheep was observed by the shepherd to be affected with braxy. It was brought home and put into an inclosure at the back of the house; the wool was not clapped, but the eye was languid, the mouth dry, the skin rough on being felt; frequent rumbling was heard in the bowels, the pulse felt at the neck was quick. It had frequent stools, which had a slimy appearance, and were mixed with blood, and a few hard balls were observed to come away amongst some of the stools, at each of which it drew up its hind legs, and seemed to suffer pain. As it was in good habit of body, it was bled in one of the veins in the fore leg, and about two ounces of blood, of a dark color, taken from it. A dose of an ounce of salts was then administered, which in eight hours produced several passages; and the pain in the bowels seemed in some measure to be abated. Next day, five grains of ipecacuanha were given every two hours, for five hours, which still kept up the purging; and considerable sickness was apparent. In two hours after the operation of the ipecacuanha, it began to eat a little, and the skin was somewhat moist. The frequent stools now abated, and there was no more purging, nor was any more blood passed. In six days it was so far recovered, as to be able to join the flock.

Case 2.—On the 16th of the same month, 1800, a sheep was brought home, in which the disease had continued for several days. The stools were very frequent, slimy, and mixed with blood, having little feculent matter in them; the wool was clapped; the mouth and skin dry; the eyes languid and red; constant rumbling in the belly, and the animal could with difficulty stand. On laying the hand on the belly, it could be felt in some parts, as it were drawn together, and lumps in parts of it. A dose of half a drachm of rhubarb was given to it, which operated in eight hours several times, and brought away a quantity of faeces, more of the natural appearance, only thin; and next day eight doses of ipecacuanha were given, one every two hours. The purging continued, but not so much blood or slime, for two days, at the end of which, four ounces of logwood were taken, upon which was poured a Scots pint of boiling water. When it had stood for twelve hours, a gill, or four ounces of the infusion was given morning and evening, having fifteen drops of laudanum added to each dose.

In six days the stools had ceased in their frequency, and the feverish appearance was gone off, and the animal had begun to take its food. From this time there was nothing more done to it, and in twelve days from its first being brought home, it was returned to the flock.

Case 3.—In the month of September, 1800, a sheep was brought into the inclosure, from a neighboring farm, the proprietor of which had before witnessed the successful treatment of the other two cases. The disease had continued twelve days, and the animal was very much exhausted. The wool was clapped, and a very considerable quantity of blood was passed at each stool, the mouth and skin were dry. It took no food, and the pulse was quick. A dose of salts was given to it, (an ounce,) which operated well. Next day, four doses of ipecacuanha were given of four grains each, which also operated, and by which the purging stopped for six hours. There was no appetite, and a number of hardened pieces of faeces were passed, mixed with black blood. The heat of the body continued. Two ounces of logwood were infused in a quart and a half of water, and given in the quantity of a gill three times a day, with the addition of fifteen drops of laudanum. This was continued for four days: during which time, however, the blood still continued to be passed, with an admixture of a substance like the matter of an ulcer, and on the 17th day from the first attack the sheep died.

On looking into the belly, the bowels had all an inflamed appearance, and a considerable proportion of the lower intestine was ulcerated in the inside; its coats were thickened, and its outside was of a blackish hue. There was a quantity of fetid air in the bowels, which turned a silver probe quite black, as it did also a shilling exposed to it. The flesh was soft and red, but the heart, liver, and brain, were sound; the kidneys were slightly enlarged and flabby.

Case 4.—In August, 1800, a sheep was brought home, affected with braxy; the symptoms were as formerly described; it seemed much exhausted, and had been observed affected for seven days. It got first four grains of ipecacuanha every two hours, three times, which purged it a good deal. It was then placed in a small house, where was a large cast iron boiler, which being filled with water, and the door shut, from the heat of the furnace below, it soon filled the house with steam, in which the sheep continued for the space of three hours, when the fire was taken away, and the sheep remained in the heated house all night. There was a great perspiration over its body, and the wool was quite wet. It was taken out at mid-day, and the infusion of logwood and laudanum given to it three times a day. It seemed a little better, and the stools not so frequent. Wool still clapped. Next night it was shut up, and stoved again, and some flour porridge was given to it, with a little milk. Next day the medicine was continued. The

symptoms had abated, but the wool clapped; it was not again stoved, and the medicines were continued for twelve days before it had quite recovered.

Case 5.—In this case the treatment was the same as in the first and second cases; but there was such a degree of debility, that the porridge and astringent medicines were continued for nearly four weeks before the animal was recovered.

Case 6.—In August, 1800, a sheep was brought in with braxy, the symptoms very violent. It had a dose of salts, which operated, but it died next day. In this case the bowels were affected considerably higher up, being at the junction of the small and great guts, where mortification had taken place. The lower bowels had a number of round hardened balls in them, and a very disagreeable smell was exhaled.

I deem it unnecessary to mention any more cases, which all occurred in the same year, as braxy has not appeared since 1800, and I have had no opportunity of making experiments on it since that time. The practice in that year was very successful, as five were saved out of seven that were brought home, and a fair trial instituted; but, from carelessness, nearly one out of three died before any thing was done to them.

(To be continued.)

(From the Genesee Farmer.)

ON WOOD LOTS.

MR. GODSELL.—Seeing a remark of yours about wood lots, I feel disposed to trouble you with my experience on that subject.

I settled in the Genesee Country, about twenty-five years ago; and located myself within a few miles of what is now a flourishing seat of justice, (or more properly, county town.) My farm lot contains a little more than 200 acres; about equally divided as to arable and meadow and pasture and orcharding land. I had a number of young boys growing up, and I thought that until they were able to "turn about" with me, I should clear up as little of my land,—which was heavily timbered,—as I could well get along with. With a hundred and eighty dollars left, after I had paid for my land, I commenced operations.

The public road was laid out through one end of my land; I had a good building spot on this road, which I rejected; because, when every person passed, my in-door people would to satisfy a laudable curiosity, be apt to look out. I therefore placed my log house, containing two large rooms only, about forty rods from the road, with a broad avenue (I used to call it a lane) leading to my house, the only passage to my house was through a narrow gate, too narrow to introduce a horse through. This lane served many useful purposes, to bait my oxen, and withal for the good woman to whiten her small trash on the grass.

But, what of the wood lot, you will justly complain. I will tell you; when I clear land, I clear away the underbrush, and felled timber first; so, in this account, I am only clearing away the underbrush.

At the west and southwest of my log cabin—covered with oak shingles—was a small hill which contained about twenty acres, of top and sides, covered with white oak, hickory, elm, bass, ash and birch; the latter bordering a small run, which hugged on the northwest side of the hill. The timber was thrifty, and not of the largest growth. I laid out this hill as my wood lot; and was abundantly laughed at by my log-rolling neighbors, who declared that they should as soon think of digging a well in Lake Ontario! I bore their jeers like a philosopher; and occasionally, my wife, good soul, would put in her word; but I hired a Vermont chopper, and I and my boys underbrushed, and cut up and dished the fallen timber; and let the Vermonter with his axe polished as a mirror follow after us. We went round the wood lot, and cleared off in two years a fine meadow lot of ten acres, and put in another ten acres of wheat, and reaped it; and prepared another ten acres for sowing, to—

* Observed by Mr. Stevenson; called by him *braxy*.

gether with raising potatoes, corn, &c. We had cut nearly round the wood lot, and put up good fences; consequently this lot was in good fence the third year. The lot was laid out in what we called a four square lot, with one corner to the southwest and another to the northwest; two points from which most of our strongest winds prevail.

I was enabled to pay this chopper for another year's work, having a fine crop of wheat; but I did not set him to clearing off any more land, but went to tilling thoroughly that we had got under our hands, which was now about forty acres. We worked hard, self and boys. We went into the wood lot; we underbrushed it; we cut up the old logs, and piled up the brush and the logs in small heaps, and so located them that they did not lumber the timber. By this time I had almost lamented my folly in attempting to be wiser than my neighbors and my wife, for one windy night overthrew a dozen of my finest trees.

I called my sons and my chopper to my counsels; we went into the barn and held our sitting, for the ridicule of the house we could not bear. The Vermonter regretted underbrushing—it let in the enemy, my boys, they agreed to cut off the tops; and Vermont and the boys built them a ladder and mounted aloft, and by the use of a stout long rope, I was able to either hold the top from falling, while they came down, or pull it down afterwards. We took the trees on the exposed points, and in a short time we had prepared the outer defences so they were impregnable to the fiercest and strongest blast.

And, the more the timber has been exposed, the firmer it appeared to root itself. We cut the tops up, which made good wood, and was nearer than any other part of my uncleared land. Indeed, in a few years, my

boys, who had learnt how to swing an axe from the individual before mentioned, nearly drove the trees from the other parts of my farm convenient to my house; so that, for the last twelve years we have resorted to the wood lot for nearly all our fuel. In taking away an aged tree, we give room for several young ones to fill the space; and, notwithstanding we burn all the wood we need, the wood lot gains on us rapidly, and is now the most valuable part of my grounds. It has always been fenced, and no hope of axe-helve men have ever been able to plunder from it.

The corners pointing towards the quarters from which we experience the heaviest winds, break off their force. The wood lot furnishes me amply with wood; it furnishes abundance of fine pasture land.—It breaks the winds from my residence, (which has now grown to more ample dimensions), and also protects my orchard, garden, and farm yards from the prevailing sirocos from the regions of Mexico and the Rocky mountains.

These aged trees, too, as they still keep erect, showing their silvery moss as if in pride, remind me of my own situation. When I go in among these trees to select one for the axe, I bethink me, how much longer may the remorseless scythe of Time spare me, whose head now blooms like the moss on my aged trees.

There is also interesting music from this petit forest. It is a mighty Aeolian harp, from the gentle breeze to the lashing gale. It discourses to me most excellent music.

As the wood gains upon me, Mr. G., I would you had a couple of cords of it, for your excellent paper.

S.

SUMMARY.

Mean of thermometer at sunrise, 61.13°.
Mean at mid-day, 80.5°.
Mean for the month, 70.26°.
Minimum, 47° on the 6th.
Maximum, 92° on the 13th.
Coldest day, 51° on the 5th.
Warmest day, 81° on the 27th.
Rain on 11 days.
Electrical phenomena on 8 days.
Range of thermometer, 45°.
Days of fair weather, 22.
Days of clouds and storms, 8.
Wind west of meridian on 20 days.
Wind east of meridian on 10 days.
Thermometer below 55° on 8 days.
Thermometer above 76° on 20 days.

MEMORANDA.

1st. Remarkably fine mc: and cs; from n. The sky still overcast with the milky attenuated cirrus. Nighthawks (C. Americanus) and cedar birds (Bumbayella Carolinensis.)

3d. R: all day.

5th. Large coal fires yet comfortable and necessary. Mountain laurel (Rahmia latifolia) in bloom in New Jersey—in bloom here on the 11th.

11th. Dense fog till 9 a.m. More like summer than for a month past—81° at 11 a.m. Sweet William and all the roses in great perfection and abundance. Anemiona Virginiana transplanted from the woods last year still in bloom. Lima beans destroyed by the cold and wet the third time, and most of our garden vegetables a month or more behind.

17th. The sky this afternoon was of pure cerulean, without the misty cirrus before noticed.

22d. First common summer locust. A pair of Baltimore Orioles have reared a brood on a willow within a few feet of the school room; the nest was suspended about fifteen feet from the ground, and directly over a spot where the younger pupils pursued their sport without giving alarm to the parent birds.

25th. Fire flies innumerable, the air appears full of them as high as the tree tops. Hay harvest has now fairly commenced here,—a few lots were housed last week, but the timothy and clover is now in perfection; the crop is good, though not so heavy as sometimes. The clouds this afternoon present a curious mixture of every modification, yet all detached and all having a gentle motion from southwest.

30th. A few fields of rye cut in New Jersey.—The first part of the month very wet and cold, the latter part dry and warm. Large quantities of hay have been secured in the best order.

(From the New England Farmer.)

Washing Salads, &c.—James Simson, a writer for the Gardener's Magazine, concludes a pretty long article on the best mode of washing water cresses and other salads, so as to free them from the larvæ of insects and worms as follows:

"Mr. Brown, of Dalkieth, suggested the idea of having a tub of salt water from the sea, and steeping them a few minutes in that. We immediately adopted the advice, and succeeded perfectly in detaching every thing of the animal kind from the leaves referred to. My mistress was so much pleased with the thing, that she has since had every kind of salad washed in this way, especially such as grow close to the ground and are apt to have worms and slugs gathered with them. We have even had small red worms come out of cabbages and lettuce, besides green flies and caterpillars. After the vegetables remain three or four minutes in the salt water cistern, whatever has been in them comes out, and is seen whirling and dying in the water. The vegetables are then taken out and washed with fine fresh water in the usual way." The same water may be made to last for weeks, if the insects are strained from it.

MISCELLANEOUS.

METEOROLOGICAL JOURNAL,

For 6th mo. (June), 1832, kept at Clermont Academy, near Philadelphia, by S. S. GRISCOM.

Day of the month	Therm. at sunrise.	Clouds at sunrise.	Wind at sunrise.	Remarks, a.m.	Max. of Therm.	Clouds, 3, p.m.	Wind, 3, p.m.	Remarks, p.m.
1 52	c, s, cs.	n, n.e. 5		fires in school room	73	ms.	nne3	
2 48	c;	sw3		do do	81	c, s, cs;	nw3	
3 56	cms.	ne3	r		56	cms.	ene4	r.
4 50	cms.	ne2			68	ms.	sw2	51° se. 2. mcs; in evening
5 51	cm, s.	e2	r,		57	mcs.	ne2	r. 53 r, e4. in evening
6 47	cs; ms.	sw2			73	ms.	sw2	r, nw4. r; in night
7 56	cs & ms.	nne3			71	ms.	nne3.	r. 57° ms. r; in night
8 54	s.	0.	ms;		74	ms;	0	se4 in evening
9 52	s.	se2.	damp		71	mms;	sw3	nimb. t, l, in even'g r, in night
10 56	mcs.	sw3	r, clouds from nw		79	ms;	sw3	nimb. t. l.
11 59	s.	0	se1.		92	m.	se1	57° cs; sw1. at 4 pm
12 64	ms.	sw1			92	m;	w1	nimb. in n. l; in n and w.
13 70	0	ne5			78	ms.	ne5	
14 58	mcs.	ne1		foggy mist	79	cs, cs.	sw2.	l, in nw in evening
15 67	s.	sw1.		do do	91	m, c;	sw1	t; l; r; in evening—r! in city
16 67	0	w1			91	m.	sw3	
17 70	0	sw1			90	ms.	sw3	l, in evening
18 70	nimb.	0		t, l, early	91	m, n, w	sw3	nimb. in n. and s. r, t, l,
19 68	ms.	nne5		r, very early 66° at 9 am	69	ms;	nne5	60° at 9 pm nne5
20 51	0	nne2		69° at m	74	ms.	nne5	61° do do
21 59	0	nne1			83	0	nne2	
22 59	0	0			84	c, m.	0	sw3 in evening
23 60	ms.	sw0			87	m.	nw3	71 sw1 at 9 pm
24 64	0	nw. 0			87	ms.	sw1	70 sw1 do
25 64	c, cs.	sw2		m, c: at m	91	m, s, c;	sw2.	c; very fine
26 68	c, ms.	sw3.			89	cs; ms.	sw4	72° sw in evening l,—aurora
27 72	cms.	ssw4		r, very little wet mist	90	cm, m;	sw4.	75 sw—l, in s.
28 70	mcs.	nw1.		r, do do	87	cm; s.	nw3	
29 65	0	nw1			88	c;	ssw3	c,
30 57	0	0	c,		84	m.	ssw4	71° in evening

FOREIGN MARKETS.

HAVRE MARKET, June 9.

Corn and Flour.—Foreign Flour is in moderate demand; the stocks being in few hands, holders are firm. Sales since our last, 1200 barrels Richmond and Fredericksburg at 38¢ to 37½ 50; 2000 do. Richmond: to arrive previous to the 20th inst. at 38; 1000 barrels Richmond (resale) 39 and 39 50; 300 do. Alexandria (resale) at 40¢ the whole duty to be paid.

Cottons.—The demand has been very limited during the last ten days, and the prices barely supported. The complaints of the manufacturers respecting the difficulty and loss attending the sale of their goods are numerous; and the political events by which their country is again disturbed, tend unfortunately to aggravate their opposition. The transactions from the 31st ult. to the 5th inst. comprise 2502 B. as follows. 510 B. Louisiana at 93 to 108; 2 B. Up-lands, Mobile, and Alabama at 85 to 95½; 722 B. Pernambuco at 115 to 125½; and 70 B. Bahia at 105 to 108; all these articles duty paid. The arrivals within the same period, (exclusive of the cargo of the Marengo, from New Orleans, in quarantine) amount to 5404 United States, 850 B. Maranh. and 100 B. Cayenne.

LIVERPOOL COTTON MARKET, June 6.

There was but little business done in our cotton market yesterday. To-day there has been a good attendance of buyers, and not so much done as expected; the sales are 2500 bags at prices rather in favor of the buyers, and the market leaves off heavy. Bazaills still remain very steady. There are eight vessels in with cotton towards this week's import.

June 6.

Cotton.—The sales of the week are 11,000 bags; in prices there is a decline of ¼ d. per lb. The arrivals are seven vessels from the United States.

Prices Current in New York, July 14.

Beeswax, yellow 18 a 20. Cotton, New Orleans. 104 a 18; Upland, .93 a .11; Alabama, .9 a .11; Cotton Baggins, Hemp, yd. 14½ to 14; Flax 13 a 14; Flax, American, 7 a 8. Flaxseed, 7 bush. clean; rough —; Flour, N. York, bbl. 5.75 a —; Canal, 5.75 a 6.00; Balt. Hwd-st. 6.50 a 6.62; Rhd. city mills —; country, 5.87 a —; Alexandria, 6.37 a 6.75; Fredericksburg 5.75 a —; Peters, 5.87 a —; Rye Flour, 4.57 a —; Indian Meal, per bbl. 3.37 a — per hhd; 16.00 a —; Grain, Wheat, North, — a —; Vir. — a —; Rye, North, 80 a 82; Corn, Yel. Nor. 63 a 70; Barley, — a —; Oats, Sth. and North, 44 a 53; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess 9.50 a 10.75; prime 5.37½ a 6.00 cargo — a —; Lard, 1½ a 9½; Pork, mess, bbl. 12.75 a 14.00; prime 10.25 a 10.81.

VALUABLE COW AND CALF FOR SALE.

A COW, six years old, with a young BULL CALF, of the celebrated Teeswater and Holderness Breeds, will be sold cheap if immediate application be made. The ancestors of these animals, (a full bred Holderness Bull, and two full bred Teeswater Heifers,) were brought to this country by Richard Parkinson, of Doncaster, (England) and their progeny have been kept unmixed to the present time. This cross is said to be the origin of the Short horn Durham Cattle. The breeder of the Cow and Calf, (in whose possession the breed has been since their arrival from England,) prefers this race, as milkers, to any other. The Calf is a fine formed animal three months old. Apply to I. I. Hitchcock at the Office of the American Farmer.

TURNIP AND CABBAGE SEEDS, &c.

The Subscriber offers to the public a quantity of Red Top and White Stone TURNIP and RUTA BAGA SEEDS, together with an assortment of GARDEN SEEDS, suitable to the season. Also, a quantity of Early Yew CABBAGE SEED, just arrived in the John and Elizabeth at New York, from London, which he has reason to believe will be of fine quality.

J. S. EASTMAN,
No. 36 West Pratt street.

July 20.

TURNIP SEEDS.

As the season for sowing Turnips is at hand, we offer for sale at the American Farmer Office and Seed Store, the following choice kinds of Seeds, which may be relied on as fresh and genuine, viz.

EARLY DUTCH, WHITE FLAT
EARLY WHITE DUTCH, RED TOP
GARDEN STONE, YELLOW FLAT,
YELLOW ABERDEEN, RUTA BAGA,
LARGE NORFOLK FIELD, YELLOW BULLOCK.

Also the following choice PUMPKIN SEEDS:

Connecticut Field, or Northern; Mammoth; Pennsylvania Field, and Cushaw.

DURHAM SHORT HORN BULL CALF.

A full blood improved Durham Short Horn Bull Calf, by Gloucester, out of a first rate thorough bred Cow, four months old, well formed, of good size and points, for sale by the Editor of the American Farmer. Price, if immediately taken, \$150. Apply to I. I. Hitchcock, office of the American Farmer.



CORN CULTIVATORS, HARVEST TOOLS, &c.

The subscribers have prepared a good stock of CORN CULTIVATORS, both wrought and cast lines; GRAIN CRADLES, with best quality warranted Scythes attached; GRASS SCYTHES and SNEADS ready hung or separate; Steel Hay, Grain, Manure FORKS and improved Wheat Fans. They are also now manufacturing and preparing to furnish Lane's Patent THRASHING MACHINE at \$75. Horse Powers \$75, which, together with their usual stock of Ploughs and other Agricultural Implements, are offered for sale on accommodating terms.

Also a supply of SWEET POTATO ROOTS, for planting.
SINCLAIR & MOORE,
Grant street, near Pratt street wharf.

AGRICULTURAL IMPLEMENTS AND FRESH GARDEN SEEDS.

The subscriber offers at his store and manufactory, No. 26 Pratt street, between Hanover and Charles streets, a great variety of AGRICULTURAL IMPLEMENTS, consisting of his Patent Cylindrical STRAW CUTTERS; Gideon Davis' Patent PLOUGHS, with cast and wrought shares, and Castings for the same to supply those worn out; Substratum and Shovel Ploughs; Harrows; Robbin's Patent Corn Planter; Corn Cultivators, Corn Shellers; Wheat Fans; Wire Saws, Hay and Manure Forks, by the single or dozen; Grass and Grain Scythes; Grain Cradles; Hay Rakes, Mattocks; Picks and Grubbing Hoes; Weeding and Hilling Hoes. A variety of Garden and Horticultural TOOLS, &c. Those articles manufactured by himself special pains have been taken to procure the best materials and to have the work executed in the best manner.

Also, a great variety of GARDEN SEEDS, both European and American, and all of last year's growth, embracing a great variety of Beans, Cabbages, Radishes, late Peas, Bene Seed, &c. &c. And the following FIELD SEEDS, viz: Tall Meadow Oat Grass; Lucerne, of Prime Quality; Mangle Wurtzel, Ruta Baga; Large Yellow Pumpkin, by the quart or bushel; and White Italian Mulberry SEED, of prime quality.

Just received from Europe a supply of Fresh LUCERNE SEED of prime quality, which will be sold at market price; and also a quantity of White Italian Mulberry Seed fresh and of fine quality, at 50 cents per ounce.

J. S. EASTMAN.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—Our quotations of wheat this week apply to that of the new crop. There is very little coming into market, and business of all kinds remains dull. The prospects of the oat crop are said to be very good; rye has declined still farther.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.00 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a —.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 356 hhd. Md.; 152 hhd. Ohio; and 164 hhd. Ken.—total 702 hds.

Flour.—best white wheat family, \$7.25 a 7.75; super Howard-street, 6.12½ a 6.25; city mills, 6.00 a 6.12½. Susq. — a —; CORN MEAL bbl. 3.50; GRAIN, best red wheat, \$1.15 a 1.20; white do 1.20 a 1.30; Susq. —.—Corn, white, 61 a —, yellow 63 a —; Rye, 60 a 62 —OATS, 44 a 45.—BEANS, 75 a 80.—PEAS, 65 a 70.—CLOVER-SEED — a —TIMOTHY, — a —ORCHARD GRASS — a —Tall Meadow Oat Grass — a —Herd's, 75 a 82½.—Lucerne — a 82½ lb.—BARLEY, FINEST 1.50 a 1.62.—COTTON; Va. 8½ to 10.—Louis 13—Alab. 8 a 11½.—Tenn. 8 a 10; N. Car. 8 a 10.—Upland 8 a 11.—WHISKY, hhd. 1st p. 32 a —; in bbls. 32½ a 34.—Wool, Washed, Prime or Saxony Fleeces 50 a 60; American Full Blood, 45 a 50; three quarters do. 40 a 45; half do. 35 a 40; quarter do. 30 a 35; common 25 a 30. Unwashed, Prime or Saxony Fleeces, 30 a 35; American Full Blood, 27 a 30; three quarters do. 25 a 27; half do. 22 a 25; quarter do. 20 a 22; common, 17 a 20. Hemp, Russia, ton, \$25 a \$30; Country, dew-rotted, — a 7c. lb. water-rotted, 7a 8c.—Fathers, 36½ a 37; Plaster Paris, per ton, 4.37½ a —, ground, 1.50 a —bbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for castings, per ton, 25.00 a 30.00; bar Susq. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.50 a 6.75.—Oak wood, 3.00 a 3.25.—Hickory, 4.50 a —.

CONTENTS OF THIS NUMBER.

Editorial; Key-hole Cats, Angora Cats; New Ornamental Tree, Extract of a Letter from Com. Porter to J. S. Skinner, Esq.—Review of the Pomological Manual or a Treatise on Fruits.—A New and Improved Method of Raising Early Peas.—Remarks on the Red and the White Clover; Kind of Soil, Preparation of the Land, Choice of Seed, Time of Sowing, Quantity of Seed to the Acre, Manner of Sowing, Mowing, Saving Seed, Produce per Acre, Its use as Pasture, Duration —On Supporting Newly-planted Trees—The Mountain Shepherd's Manual, part iii, Diseases; Braxy, Brocks-hauck, Diarrhæa, Dysentery, Cases of Dysentery—On Wood Lots—Samuel S. Griseom's Meteorological Journal for June—Washing Salads, &c. with Sea Water to free them from the Larvæ of Insects—Foreign Markets—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

EDITED BY GIDEON E. SMITH.

Published every Friday, (at the old office, basement of Barnum's City Hotel,) by I. IRVINE HITCHCOCK, on the following

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged by the year, and never for a shorter term.
3. When consent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of this subscription that shall be entered at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of back orders sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once (Seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

—All Postmasters are requested to act as agents for the Farmer; they are authorized to retain \$1 for each new subscriber, and 10 per cent. on all other collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, JULY 27, 1832.

Mr. SMITH: Valparaiso, Chili, 20th April, 1832.

With much pleasure I acknowledge the receipt of a file of that valuable periodical the *American Farmer*, together with sundry other papers from different sections of the United States, so kindly forwarded by you per the *Ulysses*; which, from their variety, recent dates, &c. were the most acceptable treat, in that way, I have enjoyed since my arrival on this coast—and for which you will be pleased to accept my grateful acknowledgments. I regret extremely my inability to make, just now, any suitable return for your favor. Being on the eve of departing for Lima, (the other naval depot on this station,) my time and attention are so wholly absorbed by official duties, that I find no leisure to collect any thing worth sending you. I have hastily made up and forwarded, however, by the brig *Richard Alsop*, a small box, containing:

1st.—*Alfalfa* Seed.—This is the clover of the Spaniards; but resembles more the *lucern* than the clover of the United States. The *alfalfa* is the only grass used in this country, to whose dry and arid summers it appears peculiarly well adapted, the root extending its fibres to a great length, say ten or twelve feet, following the moisture as it recedes from the surface of the earth, and thus imparting freshness and vigor to the plant for the whole of the dry season, during which no rain falls for a period of eight months in succession, the fields being dependent for moisture wholly on irrigation and light dews. It is said to exceed all other grasses in its nutritive properties, every species of hoofed animals eating it greedily, whom it fattens very quickly: And it seems almost to supersede the use of grain, even for animals of burden.—The Chilean horses, (those of the best blood being confessedly among the finest in the world) when fed on nothing but alfalfa, and a very small portion of barley, will endure fatigues and perform journeys incredible in our country. In those warm and arid regions of the United States, where the common clover does not thrive well, I should think the alfalfa would be a valuable grass; and I hope some of your southern friends will be found willing to test the congeniality of their climate with its growth. I must confess, however, that where, in our country, the climate and soil are favorable to the production of clover, I doubt whether *alfalfa* can successfully enter the "field" of competition with it.

2d. *Carabanzas*, a species of Pulse,—which, I believe, is indigenous to this country, and was found here by the earliest Spanish settlers. This vegetable is used when dry, and constitutes an important ingredient of a favorite dish of the country, called *Puchiro*. I am, myself, fond of the *carabanzas*; and perhaps, on trial, you and others might also relish them. From the small quantity I have sent, however, you will readily perceive that the first thing requisite in testing their value, is, to *raise some*. (Some say these are the *garbanzos* (or chick-pea) of the Spaniards.)

3d. Seed of the *Spanish Onion*.—There is probably an abundance of the same kind in the U. States, as these were originally brought from Old Spain; but as those produced in Chili, are, without exception, the finest vegetable of the kind I ever saw, I send you a small quantity of the seed. These onions are as large in circumference as a common tea plate, always white, and so mild in their flavor as seldom to start a tear, even from the most sympathetic eye.

4th. *Peruvian Cotton*.—Having seen a paragraph in several of the American papers, (and which you may possibly have transferred to the columns of the *American Farmer*) giving rather an extravagant account of what is therein called "*Payta Cotton*," a

lot of which has been sent from this coast to the United States. I forward a small sample, in the seed, that you may be the better enabled to judge whether the paragraph in question is not more indebted to the *fancy* of the writer than to "facts," for the importance which it may be thought to possess.

So rich, varied and interesting are the productions of the vegetable kingdom of these countries, that no one ought in my estimation, to be excused for calling *fiction* to his aid in describing them. But I must remark, by the way, that even a more amusing specimen of *epistolary fiction* than is afforded by the paragraph under criticism, has recently found its way into the American papers, in regard to the natural wonders of these southern regions. Sensible, matter-of-fact people will, however, generally place a correct estimate on such ephemeral publications,—they view them as the offspring of either vain minds, or disordered imaginations. The *cotton* in question does indeed, grow on what a lively fancy might readily picture as "trees,"—but which I would rather call *shrubs*, about the size of a rank growth of *James-town-weed*,—it is, too, a *perennial* plant yielding cotton five or six years in succession.—But it is *not*, and I am inclined to think *cannot* be produced, by *any system of culture*, as abundantly and cheaply as the common upland cotton of our country. The best of it is seldom of a superior staple to our prime uplands; yet it can scarcely ever be purchased in the seed, where produced, at a less price than four dollars, and frequently sells as high as six and seven dollars the quintal—its loss in ginning, being from 60 to 70 per cent. It is found in nearly all parts of Peru, Bolivia, and the Pacific coast of Columbia; but as it does not thrive in a higher latitude than 24 or 25° South, I doubt its capability to resist even our Carolina winters,—yet still I should be gratified to see an attempt made to acclimate it in the United States. I shall endeavor during my next temporary sojourn in Peru, to collect other facts in relation to this really valuable plant,—such as its peculiar characteristics, mode of cultivation, &c. &c.; and will let you hear from me again on the subject, should my inquiries result in developing any thing worthy your attention.

I shall also take pleasure in communicating with you, whenever I may get possession of any thing worth sending; and will feel much obliged for any papers or publications you may be pleased to forward. Not only the seeds I send, but whatever I may write are entirely at your disposal. Very respectfully, your obedient servant,

PHILO WHITE.

¶ I also forward you a small sample of the *Barley* of Chili. It appears to be better than that produced in our country;—and is the only grain used here for feeding stock, there being very little *wheat* or *oats*;—the climate, I believe, is not congenial to their growth.

(From the New England Farmer.)

EXCURSION IN FLORIDA.

Bulowville, East Florida, Dec. 31, 1831.

MY DEAR F.—I have just returned from an excursion down the Halifax river, about forty miles from this place and eighty south of St. Augustine. We meandered down a creek of about eleven miles; the water nearly torpid, yet clear; the shore lined with thousands of acres covered by fall grapes, marshes, and high palm trees. Before long we entered the Halifax river, an inland arm of the sea, measuring in breadth from a quarter to nearly a mile.

At sunrise the next morning, I and four negro servants proceeded in search of birds and adventures.—The fact is, that I was anxious to kill some twenty-five brown Pelicans. I proceeded along a narrow shallow bay, where the fish were truly abundant. Would you believe it, if I was to say that the fish nearly obstructed our headway? Believe it or believe it not, so it was; the water was filled with them, large and small. I shot some rare birds, and putting along the shore, passed a point, when lo! I came in sight of se-

veral hundred pelicans perched on the branches of mangrove trees, seated in comfortable harmony, as near each other as the strength of the bough would allow. I ordered to back-water gently; the hands backed-water. I waded to the shore under the cover of the rushes along it, saw the pelicans fast asleep, examined their countenance and deportment well and leisurely, and after all, levelled, fired my piece, and dropped two of the finest specimens I ever saw.

The fish were as abundant as ever. I ordered the net to be thrown overboard, and in a few minutes we caught as many as we wanted—fine fish too, bass and row-mullets. The purposes were as busy as ourselves, and devoured them at a great rate. The boat was abandoned; the game fastened to the backs of the negroes; the guns re-loaded, and on we proceeded through the marsh first, then through the tangled palmetoes, and scrubby, sturdy, live oaks, until we reached the sea beach. Pretty walking along the sea beach of Florida in the month of December! with the wind at northwest, and we going in its very teeth, through sand that sent our feet back six inches at every step of two feet that we made.

To give you an account of the little I have seen of East Florida, would fill a volume, and therefore I will not attempt it just now; but I will draw a slight sketch of a part of it.

The land, if land it can be called, is generally so very sandy that nothing can be raised upon it. The swamps are the only spots that afford a fair chance for cultivation; the swamps, then, are positively the only places where plantations are to be found. These plantations are even few in number; along the coast from St. Augustine to Cape Canaveral, there are about a dozen.

Sugar cane will prosper and doubtless do well, but the labor necessary to produce a good crop is great! great! great! Between the swamps of which I now speak, and which are found along the margin lying west of the sea inlet, that divides the main land from the Atlantic, to the river St. John's of the interior of the peninsula, nothing exists but barren pine lands of poor timber and immense savannas, mostly overflowed, and all unfit for cultivation. The growth which in any other country is called underwood, scarcely exists, the land being covered with low palmetoes, or very low thickly branched, dwarf naks, almost impenetrable to man.

I am extremely disappointed in this portion of the Floridas, and would not advise any one to visit it.—It is not an uncommon occurrence to find snakes afloat and at great distances from the shore. This appears no doubt, surprising to those who live where there is almost nothing but dry land; still they ought to be good natured, and believe what others have seen. It has now been made notorious, that numerous respectable individuals whom duty or the love of adventure have led into the wilds of our country, have often seen snakes, and the rattlesnake too, in the trees. The good people, therefore, who pass their lives in stores and counting houses, ought not to contradict these facts, because they do not meet with rattlesnakes, hissing and snapping at them from the paper mulberries, as they go home to their dinners.

JOHN JAMES AUDUBON.

Why is port wine most commonly exported in full pipes?

Because port being of a strong and full body, and containing much mucilaginous extractive matter, the secondary fermentation is quickened by the greater bulk of the fluid, and the wine is thus most effectually mellowed in large vessels.

Why are brandied port wines of inferior quality?

Because the original wines being of inferior growth, would not bear sea-carriage without some preparation, and the shipper is forced to mix them with brandy, which, though it may prevent them from spoiling, renders them otherwise worse than before, as it destroys what little flavor they originally possessed.

AGRICULTURE.

(From the Southern Agriculturist.)

ACCOUNT OF AN AGRICULTURAL EXCURSION IN THE SPRING OF 1832.

BY THE EDITOR.

It has been our opinion for some time past, that agricultural excursions into different sections of this and the neighboring States, would be productive of much benefit, inasmuch as we should be able to collect and make public, much valuable information, which otherwise would never be known beyond the small circle, from which it emanated. In these excursions we would have it in our power, not only to examine into the state of agriculture, and ascertain the modes of cultivating the several crops in different districts, the domestic arrangements and economy of the plantations, but we would be able to gather from the practical planters, details of culture, accounts of experiments, and opinions of practices, which he would never otherwise dream of communicating to any one, unsolicited, much less for publication in an agricultural journal. Moreover, various experiments are made, which very often are of great interest to the community, but which the experimenter does not deem sufficiently so to be made public. Some few of these we occasionally hear of, but our chance of obtaining such information is much increased when we go among the planters themselves, and obtain from them in social discourse, accounts of all they have done—their experience, their experiments, and their practices.—For, although we have had much difficulty in getting from them written communications on agricultural subjects, yet we have never had the least in obtaining all that we desired, in conversation, and liberty to make such use of it as we might think proper.

It is a misfortune, that so many of our planters have taken up the idea that they have nothing to communicate, because they practice only, what is known to all the neighborhood in which they reside, and that the experiments they make are of too little importance to be communicated to the public.—Both of these opinions are founded in error, and nothing has served so much to injure the good cause.—Although it may be true that the practices of an agriculturist, are known and adopted by all of his immediate neighbors, yet it does not follow that they are known twenty or thirty miles off, much less, in the other sections of the State. In fact, how seldom do we find even two neighbors agreeing in all the processes of culture even of one crop, although separated but by a short distance; how then can it be supposed that those who live in different sections of the State, have adopted and practised the same. This is not, and cannot be the case, for it would suppose a greater similarity of opinions than exists. It is a fact well known to all who have either travelled in these States, or had opportunities of conversing with planters from different districts; that although the leading features of their culture may resemble each other, somewhat, yet in detail, they differ materially. This may be owing in part to the necessity of accommodating the several crops to their respective localities; but this cannot satisfactorily account for this diversity, for there is not any very great difference in climate, at least, not so much as to require the adoption of any essential change. Hence it results that if a free intercommunication could be established among the planters of the Southern States, and they could be induced freely to communicate their experience and practices relative to the various crops cultivated, the greatest benefit would result not only to themselves but to the community at large. We have ere this brought the subject before our readers, but as yet not with the success we could wish. It is to be hoped that our planters will yet perceive the benefits which may arise from pursuing such a course and adopt it.

In the mean time, we intend as often as our leisure will permit, to make excursions into the various sections of this and the neighboring States, and shall endeavor to gather as much practical information as we can from such of our planters as are unwilling to communicate otherwise than orally. We hope we may be able to do some good in this way, as we shall notice in these excursions many arrangements of domestic economy, and many practices, which will enable our readers not only to judge of the actual state of agriculture in those places where we shall visit, but enable them also, in some instances, to lay aside that which is bad in their own modes of culture, for that which is better in their neighbors.

We made a short excursion the last year, but had time to inspect but one plantation, (*Pochee*) of which we gave an account in our 4th Vol.—circumstances prevented us from making any other, during the last winter, and unfortunately, our climate permits these, only during the winter and spring months. We, however, determined to avail ourselves of the frequent and kind invitations we had received to revisit our friends of St. John's and St. Stephen's. Accordingly, on the 11th of April, we set out on our excursion. The early part of the spring had been mild and propitious to vegetation, but a sudden and disastrous check had been experienced, which stayed all further progress, and proved extremely destructive, not only to the fruit, but even to many of the forest trees—some hardy exotics were even killed to the ground. The weather had moderated, and a shower the day previous rendered the travelling very pleasant;—our route for the first day was through Christ Church Parish.

The main public road through this parish, runs on what may be termed the dividing ridge, which is but little better than a mere pine barren, running through the centre lengthwise, and separating the productive lands, which are to be found only on the river or on the sea-coast. Nearly all of the plantations are, therefore, situated either on the Wando river or on the sea-board, consequently a traveller can form no idea of the fertility or improvements of this parish by merely passing through. The road, in some few places, approaches the river or the sea-coast, and at each of these, are settlements. On one part of the sea-board, (the Western) the settlements are numerous, and the fields of the several plantations join for many miles. On the river they are not so thickly settled. Both on the river and on the sea-board, long-staple cotton is cultivated as the market crop. Rice is also cultivated by Dr. Weston on his plantation, situated near the head of the Wando river, but his supply of water is from reservoirs entirely. It is likewise cultivated on several plantations situated on the Wappetaw swamp.

The first place we stopped at was "Clay Fields," the residence of Col. J. B. L'Ou, situated on the Wappetaw swamp, in Christ Church Parish. Unfortunately we found Col. L'Ou confined to the house by indisposition, and consequently unable to accompany us in viewing his plantation. We were, however, politely furnished by him with all the information we desired relative to its management during the short time we remained.

Rice is the principal and the only market crop cultivated here. The fields are composed of a stiff blue clay, and are not only productive, but the grain produced is of the first quality. There are several plantations on this swamp, and it is one of the few where the culture of rice has been continued and found profitable. The planters have to depend altogether on reservoirs for their supply of water, which of course renders the crops a little precarious, but not perhaps more so than on those rivers subject to "salts" or freshets. We visited but two plantations on this swamp, and cannot pretend to state what the modes of culture in general use are; we will, therefore, confine ourselves to those of Col. L'Ou and Mr. F. D. Quash, premising that in several respects, their

neighbors differ from them, owing to their respective situations, and sometimes to a difference of opinion.

In preparing his ground for sowing, Col. L'Ou permits none of the stubble of the preceding crop to be burned off, but as soon as possible, the whole is turned under by the plough, and the harrow is used to pulverize the soil, which, however, is not completely effected by that instrument, owing to its great tenacity. It becomes necessary, therefore, to use some other instrument, and accordingly, when it is time to sow the crop, the hands are sent over with the hoe to pulverize it still more, and render it more fit for the reception of the seed. Where the plough and harrow cannot work, (the sides of the banks, and near the ditches) the hoe is used, both to turn under the stubble and otherwise prepare the land.

The fields being ready, the crop is sown between the 10th and last of April, and he thinks the whole crop ought to be in by the last of that month. The rows are fifteen inches apart, and made with a trenching plough. One and three-quarters of a bushel of seed per acre are used, and the sowing is on the *string*, as it is technically termed. It is covered before he puts on water, nor does he think, that the leaving it uncovered and flowing for the purpose of covering, and at the same sprouting, will answer on clay lands: certainly not on his. As soon as this operation is finished, water is let on for the purpose of sprouting the rice; it remains on but for a short time and is run off. Col. L'Ou does not make use of the "*point flow*," believing it not to be advantageous, and moreover being dependent on reservoirs for this supply of water, the quantity necessary could be but ill spared. The first hoeing is given when the plants are about fourteen days old, if worked among sooner, it is liable to injury, owing to its diminutive size and the carelessness of the negroes. One other hoeing is given if possible before the *long flow*, which is put on when from five to six leaves are developed. The water is kept on from twelve to eighteen days, and the length of time is determined by the state of the rice. When the *long flow* is put on, the water is permitted to cover the rice a few inches: not many days elapse before the plant appears above it. At this time it is weak, and the leaves float on the surface of the water: in a short time it recovers its strength, the leaves become erect and its growth is resumed. This does not continue long before it becomes once more stationary; at this period the water is run off, first by a small leak, until it becomes shallow, and then as fast as possible to prevent it from scalding the rice. As soon as the ground becomes dry enough, it is hoed, well picked and kept as clean as possible until the water is put on for the last flowing, the proper time for the doing of which is when the two upper leaves have what is called the "*tuck*," which is a crimp across the leaf.—As soon as this is discovered, the water is put on (from six to twelve inches deep) and kept on until within eight or ten days of harvest. By keeping on the water longer, the ripening of the grain may be backed, but it is injured, and that in proportion to the time it is kept on beyond what is absolutely necessary.

If the fields are grassy, Col. L'Ou prefers not putting on the water until they are clean, but sometimes it becomes necessary to disregard this, as greater injury would ensue to the crop if the water be not put on. Should the grass not be easily overcome by the hoe, he thinks it best to put on the water, and run the rice and grass up together, which will permit it to be easily selected and picked out from the rice.—He considers the crop fit for harvesting when the whole of the ear, except a few of the lower grains, are ripe, by waiting until the whole is perfectly mature, the grain is injured and the waste, by shelling, is very great. If all of the squarcs appear likely to be fit for the hook about the same time, it may be advisable to backen some of them by keeping water on, but if this is continued for any length of time, the quality of the grain is injured, as we before observed.—

In harvesting, each hand cuts on the first day a half acre, the next day he cuts a quarter of an acre, and binds up and carries home a quarter.

All of the crop is prepared for market on the plantation, by a small mill worked by animal power. In almost all cases we should suppose it advantageous to the planter to make use of these machines, or similar ones on his plantation, especially such as are so situated as to command a full supply of water. We do not mean those large and expensive mills, which can be built but by a few, and which must depend in a great measure on toll, for the defraying of the necessary expenses and interest on capital, for but few planters can afford to subtract so much from their agricultural pursuits, and thus vest it, but we mean such as will suffice merely for the getting out of the crop of the plantation. Where water-power can be used, so much the better, but where this cannot be applied, then a resort to animal power, as has been done by Col. P'On, Mr. Quash, and several others, might be had, for the advantage of beating out the crop on the plantation is great. Not only is there a saving in barrels, (if it cannot be sent in bulk, which sometimes is the case) but also in freight, this, however, perhaps, is the least. All of the offal being on the spot, many benefits arise, the flour can be most advantageously used in the feeding of horses, mules, cows, hogs, sheep, and even poultry—though if the mill be near the dwelling, the broken rice which always is to be found in the chaff, will prove sufficient for a stock of the latter, larger than is kept by most planters. The small rice can either be sent to market with the rest of the crop, or used on the plantations as is sometimes done, even when it is necessary to freight it back again to the plantation. Nor is the chaff a mere incumbrance, but on the contrary, if the upland soil consists of clay, it will be much benefited by its application, for it has been proven to be most excellent as a manure for such, acting both mechanically and chemically, and we have seen fields which have been rendered highly productive by the free use of chaff. Nor can it fail to be useful on those of a lighter texture, and we have here already prepared to our hands, what Sir Humphrey Davy so strongly recommends, differing very little but in name.

It will be recollected that Sir Humphrey Davy, in his lecture on manures, observes:—

"There can be no doubt that the straw of different crops immediately ploughed into the ground affords nourishment to plants; but there is an objection to this method of using straw, from the difficulty of burying long straw, and from its rendering the husbandry foul."

"When straw is made to ferment, it becomes a more manageable manure; but there is likewise on the whole a great loss of nutritive matter. More manure is perhaps supplied for a single crop; but the land is less improved than it would be, supposing the whole of the vegetable matter could be finely divided and mixed with the soil."

"It is usual to carry straw, that can be employed for no other purpose, to the donghill, to ferment, and decompose; but it is worth experiment, whether it may not be more economically applied when chopped small by a proper machine, and kept dry till it is ploughed in for the use of a crop. In this case, though it would decompose much more slowly and produce less effect at first, yet its influence would be much more lasting."*

It will be seen from the above extract, that Sir Humphrey Davy's opinion is, that straw chopped fine is fitter for manure than long straw, or that which is partly decomposed. Rice-chaff differs but little from chopped-straw, and no doubt would prove equally as beneficial.

There is, however, another reason which induces Col. P'On to prepare his crop for market in addition

to the advantages enumerated above, and the saving of the toll, which of itself is, to many an object of some consideration. It is, that the nearest distance to a landing is (we believe) five miles, and the labor of carting the rice in the rough that distance, would be double.

Corn and potatoes are cultivated on this place in sufficient quantities for the use of the plantation.—The root potatoes are never housed, but kept in the original beds in the field and taken from thence as wanted, the only precaution used, is, to draw a little earth over the tops of the beds. In this way they were preserved the last year until the first of January, notwithstanding the severe cold we had in the early part of the winter. The slip potatoes are housed early in November, whether there has been a frost or not, for he thinks that when this is delayed longer, they are invariably injured by the cold weather, which occasions them to rot. These potatoes are kept in large cellars. The one which we examined was fifty feet long; the rails twelve feet, and supported in the centre by pieces placed about midway the whole length of the cellars. They are banked up to the top, and care is taken to keep them very close. No air holes are allowed, the door-way is placed in the centre and faces the south, two doors are used, one an open lattice, to be used to give air to the potatoes, the other close, and is kept shut whenever the weather is cold. A stoole is kept up in the cellars constantly, until they have passed through the first sweat, after which it is discontinued—managed in this way they keep better than in any other he has tried. He has endeavored to preserve them in close houses made with double sides, and these filled with clay and the loft with straw. They, however, did not keep any better in this way than in common cellars.

From Col. P'On's, we passed over to "Wilkywood," the residence of F. D. Quash, Esq. situated on the same swamp, and we believe at its head. We found him busy in planting his crop. A part of his rice had been sown, and the remainder of the fields were ready, but owing to the great fall of water recently, he deemed it better to wait a few days until the surface became drier, and in the interim, to plant his corn-crop, at which work we found him engaged. Mr. Quash has much improved this place since it came into his possession, and although there is and has long been a strong prejudice against inland-swamp-rice plantations, yet we doubt whether many river plantations of the same extent and number of workers, produce a greater net profit. This is owing somewhat to the intrinsic merits of the soil, (a stiff blue clay,) and also somewhat to the judicious management of the proprietor.

There is attached to the place an extensive reservoir which could be much enlarged, if it should ever be found necessary—at present, the one under embankment is amply sufficient. Hitherto the great difficulty has been to get rid of the water in cases of sudden and heavy falls of rain, and the crops were at one time liable to much injury from this cause. To remedy it, and place the management as much as possible within his control, he has dug a canal extending a distance of more than four miles, through which he now vents his surplus water, and which in ordinary cases is amply sufficient for this purpose. Since this has been effected, his crops have been more certain, and the product greater. The quality of the rice made on this place, is considered as of the very best and commands the highest price, and in such estimation it is held that a large quantity is annually sold for seed, to other planters. Mr. Quash possesses here an advantage which but few rice planters have, which is, a complete change of fields, and which he regularly alternates.

In preparing his fields, (which is done as early in the winter as he can conveniently) he uses the plough, working it as deep as possible: the harrow is then used, and the whole afterwards made finer with the hoe. The preparation of the soil for the reception of

the seed, he believes to be a very important operation, and considerable attention is paid to it. The trench plough is used for making the trenches, which are sixteen inches apart. The rice is sown in the rows about four inches in width, and two bushels of seed are used per acre. The whole is covered lightly with beaters, and water is put on for a short time to sprout the rice. With respect to the trenching, Mr. Quash would prefer using the hoe to the plough, as it not only makes neater work, but also makes the trenches more regular and shallow, which he deems important, believing that shallow sowing is better, and that the rice when thus treated will tiller more. We have seen that he prefers covering to open-trench planting. Mr. Quash thinks that on light land, this plan would answer very well, and save much labor, because there the water would wash enough of the earth from the sides of the trenches to cover the grain, but this he does not find to be the case on such stiff clay soils as his, and consequently its safety cannot be insured even after it has taken root and the water drawn off. Owing to the same cause that prevents Col. P'On, (depending on reservoirs) he does not *point-flood*; he thinks, however, it may at times be used with considerable advantage.

Mr. Quash hoes his rice twice if possible before putting on the long-flow, which (unless to destroy grass) is not kept on longer than ten days. By many planters this flow is kept on for a much longer period, but he thinks the time which then elapses between this and the harvest-flow is too short. It sometimes becomes necessary to put on the water before the rice is hoed at all: when, for instance, there is much grass which cannot be easily conquered with the hoe, but which is destroyed by water. Sometimes it is deemed proper to put on the water for the purpose of running up those grasses which cannot be destroyed by water. When this is done, they are easily distinguished and eradicated from among the rice. Nor ought this to be long delayed in such cases, for the rice is more injured by grass than it is from any other cause, in fact, a tolerable crop may be made by the use of the water alone, but no crop can be made when the fields are infested with grass unless they are got rid of, and that at an early period. After the long-flow is drawn off, the rice is kept as dry as possible, until the time for putting on the harvest or last flow. In the mean time it is hoed lightly, (just sufficient to destroy the grass) and hand picked. He does not think it ought to be hoed either deep or as late as the appearance of the first joint, because the roots are more or less injured by each of these operations, and the greater is it, the nearer it is to the time of jointing, for at this stage of growth, a plant requires the aid of every root, and although previous to this time, it might not have been injurious to cut them, but on the contrary beneficial, because new ones were speedily produced; yet when the plant is about shooting into joint, it requires the aid of all, for its growth is then more rapid than at any other period, and if any of these are destroyed it has not time sufficient to reproduce them, receives a check, and is affected in proportion to the injury its roots have received. The water, (which should be frequently changed during this flow,) ought to be turned off about eight or ten days previous to harvest; this, however, is not always done, for although all planters, we believe, concur in its propriety, yet circumstances very often prevent, and frequently the reapers are necessarily sent in as soon after as the fields become dry enough for them to work in. The rice is cut whilst a few grains of the ear still remain green.

Mr. Quash has erected on this place a small but very excellent mill, worked by animal power, and as he has seven miles to cart his rice, the saving to him of labor in the cartage is considerable, whilst at the same time he possesses all of the advantages to be derived from beating his crop at home. We did not examine into the culture of his other crops, with such minuteness as would enable us to give any satisfac-

* Elements of Agricultural Chemistry.

tory account. All that we ascertained was, that his crops of corn have been cultivated on the same field^s for a number of years, that he manures them highly, and that they have increased in product yearly. The manure is applied in the furrows, and listed on, and so much is used that in forming the beds, (at which operation they were engaged whilst we were there) the manure used the last season is perceptible in large quantities almost every where. This being well rotted, furnishes food for the roots of the corn whilst yet young, and that which is placed beneath furnishes a supply when the plant is more advanced. More provisions are raised annually on this place than are sufficient for its consumption. The corn is the finest and purest flint we have ever seen, taking it as a whole. From "*Withynood*," we proceeded across the country, to "*Campere*," the residence of Col. John Bryan, situated on Cooper river—of which place and such others as we have seen, we propose giving an account of in our succeeding numbers.

(To be continued.)

(From the Transactions of the Essex Agricultural Society.)

DR. SPOFFORD'S ESSAY ON IRRIGATION. To the Secretary of the Essex Agricultural Society:

I feel that some apology is due to the trustees for my long delay in fulfilling the appointment with which I was honored by them at their meeting in September, 1830; and have only to say that it was occasioned by a desire to obtain from a friend, then at a distance, some account of an experiment on a larger scale than any other which has come to my knowledge in this part of the country.

Some degree of knowledge of what constitutes the food of the plants seems indispensable to any well conducted system of producing them in the greatest perfection; and such knowledge seems most likely to be obtained by minutely examining their structure, and carefully observing the manner of their growth.

Plants constitute one of the great divisions of organic life, and one formed or constituted by systems of fibres and vessels, and endowed with certain powers and appetencies which place them at a greater remove above unorganised matter, than they are below animal life; and appropriate nourishment is elaborated and a complete circulation carried on to the minutest extremity in a manner extremely analogous to the circulation which is carried on in the arteries and veins of the most perfect animals; and the apparent intelligence with which plants seek for nourishment, light, air and support, appears in some instances to bear a strong resemblance to perception and knowledge; and the circulation of fluids in the vessels of plants and animals appears to be carried on much on the same principles, and is perfectly involuntary in both.

The indispensable agency of *water*, in constituting the fluids, and carrying on the circulation in these systems of vessels, has been universally acknowledged; and could not be overlooked by the most careless observer, while he saw innumerable instances in which plants wither and dry for want of this substance. But while this universal agency has been acknowledged it is believed that a very inferior office has been assigned to it, from that which it really performs. It has been considered as the mere vehicle which carried and deposited the nutritious particles of other substances, while in reality it was contributing much the largest portion of the actual nourishment to the plants, which annually clothe our earth in living green.

If this idea is correct, then he who possesses water at his command with which to supply his plants at pleasure, or who has a soil adapted to attract and retain moisture, in suitable quantities, possesses a mine of inexhaustible wealth from which he can draw at pleasure, in proportion to his industry and his wants.

In proof of the abstract principle that water constitutes in a very large proportion the food of plants, I may be allowed to mention one or two accurate experiments of distinguished philosophers upon the subject, which appear to me to be quite decisive on the case.

"Mr. Boyle dried in an oven a quantity of earth proper for vegetation, and after carefully weighing it, planted in it the seed of a gourd; he watered it with pure rain water, and it produced a plant which weighed fourteen pounds, though the earth producing it had suffered no sensible diminution."

"A willow tree was planted by Van Helmont, in a pot containing a thousand pounds of earth. This plant was watered with distilled water or pure rain water; and the vessel so covered as to exclude all solid matter. At the end of five years, upon taking out the plant, he found it had increased in weight 119 pounds, though the earth had lost only two ounces of its original weight."

The experiments of Mr. Cavendish and Doctor Priestly, have sufficiently proved that vegetables have the power of decomposing water and converting it into such fluids as they need for circulation in their own vessels; and that they elaborate from this substance such juices and fruits as they are by nature calculated to produce.

The great effect which is so frequently observed to follow the formation of ditches from the road sides on to mowing ground is no doubt in part to be attributed to the manure which is thereby washed on the ground, but is also in part owing to the more copious supply of water which it thereby receives.

That pure water is capable of producing similar effects I have the following experiments to prove:

Several years ago, when resident with my father on his farm at Rowley, I labored hard to divert a stream, which fell into a miry swamp, from its usual course across a piece of dry upland. The stream was pure spring water, which issued between the hills about fifty rods above, running but just far enough to acquire the temperature of the atmosphere but without receiving any more fertilizing quality than was obtained in passing through a pasture, in a rocky channel; the effect, however, was to double the quantity of grass. The same stream I again diverted from its course about forty rods below, after it had filtered through a piece of swamp or meadow ground, and with the same effect: and again still lower down its course I succeeded in turning it on to a piece of high peat meadow which had usually produced but very little of any thing, and the effect was that more than double of the quantity of grass was produced, and that of a much better quality. I was led to this latter experiment by observing that a strip of meadow which naturally received the water of this run, and over which it spread for several rods in width without any particular channel, was annually much more productive than any other part of the meadow.

But the best experiment, and on the largest scale of any which I have known, was made by my late father-in-law, Dea. Eleazar Spofford, then resident at Jaffrey, N. H. A letter from Rev. Luke A. Spofford, in answer to my inquiry on this subject, observes: "My father commenced the experiment as early as the year 1800, and continued it till 1830, or to the time when he sold his farm. The last ten years of this time, he sowed, perhaps, twenty acres, and it produced, I should think twice as much in common seasons and three times as much in dry seasons, as it would have done without watering. This land would hold out to yield a good crop twice as long as other land of the same quality—that is, I presume without flowing.) In dry weather he watered it every night—and the produce was good, very good."

I am acquainted with the lot of land which was the subject of this experiment. It is a northern declivity, and rather a light and sandy soil, on the eastern bank of Contookook river; and the water used

was that of the river—about one mile below its formation by the junction of two streams, one from a large pond of several hundred acres in Rindge, and the other a mountain stream, formed by innumerable springs issuing from the skirts of the Monadnock.

From the foregoing premises may we not conclude that water performs a more important office in the growth and formation of plants than has generally been supposed—and that it not only serves to convey nourishment, but that it is its: If elaborated into nourishment, and thereby constitutes the solid substance; and we may further conclude that every farmer should survey his premises, and turn those streams which now are often useless or hurtful, on to lands where they are capable of diffusing fertility, abundance and wealth.

It appears further that the immense fertility of Egypt is not so much owing to the alluvial deposit, brought down by the annual inundation as to the canals and reservoirs in which the waters are retained, to be spread over the lands during the succeeding drouth at the will of the cultivator.

If, according to the experiments of Boyle and Van Helmont, almost the whole food of plants is derived from water, then the principal use of the various manures is to attract moisture and stimulate the roots of plants to absorb and elaborate it: and we have also reason to think that lands are much more injured and impoverished by naked exposure to heat and wind and washing by water that runs off and is lost, than it is by producing abundant crops.

In the present state of population, nothing more could be expected or desired than that every farmer should make use of such means as the small streams in this vicinity may afford; but in a densely peopled country, like Egypt in former ages, or China at present, it should doubtless be one of the first enterprises of a good government, to take our large rivers above their falls and turn them off into canals for the benefit of agriculture.

JENEMIAH SPOFFORD.

HORTICULTURE.

(From Poulson's American Daily Advertiser.)

HORTICULTURAL SOCIETY.

At the meetings of the Pennsylvania Horticultural Society, held in June and July.

A communication was received from William McMurrie, Esq., dated from the U. S. ship Concord, at Syracuse, accompanying a package of seeds and a box of grape cuttings; the latter selected with great care by an English amateur, as comprising all the varieties of value on the island.

Col. Carr presented a beautiful seedling rose, from the Champey; it is a climber, perfectly hardy, and entirely destitute of thorns.

The Messrs. Landreth a basket of very fine strawberries, of the Methven scarlet variety.

Messrs. Hibbert & Binet, *Pelarg. nium De Vere*, one of the most esteemed hybrid varieties in Europe. Four varieties of Dahlias; the *New Dwarf Purple*; *Flame buff anemoneflora*; *Purple anemoneflora*; and the *Purpurea superba*, which has been in flower three weeks, although only eighteen inches in height. The external petals of the dahlias have been injured by bugs, and the dry weather has been unfavorable to their perfect flowering. *Verbena melindieri*, a scarlet flowering species.—The above plants have all been lately imported. The Grandville rose, a free flowering variety. Branches of the *Maclura*, male and female, in flower; the male plant, hitherto unknown to cultivators,* has been discovered on the grounds of the late Mr. McMahon, which have recently come into their possession.

* This is a great mistake. The male *Maclura*, as well as the female, has been under cultivation and for sale at Princes' Nurseries, at Flushing, for some years.—*Ed. Am. Farmer.*

Mr. J. Coats exhibited a specimen of the Canada thistle, (*Cirsium arvensis*) which has made its appearance in several localities in this vicinity, and recommended that measures be adopted for its extirpation.

Why are the autumnal fruits, as plums, pears, &c. more crude and indigestible than those of summer?

Because, in part, of the state of the constitution. Thus at the commencement of summer, the system is more nerved and braced by the atmosphere of winter and spring, and by the drier food which necessity obliges us to take at those seasons; so that the cooling fruits of summer are wholesome from their opening the bowels, &c. But it is not wonderful that a continuance of watery and innutritious food like fruit, should, towards the autumn produce debility in constitutions partly predisposed to it, by the continual and relaxing heat of the summer months.

RURAL ECONOMY.

(From the Library of Useful Knowledge.)

THE MOUNTAIN SHEPHERD'S MANUAL.

PART III.

DISEASES.

(Continued from page 150.)

SCAB.

This infectious, troublesome, and destructive disease is well known. It is probable that more than one disease goes under the name of scab; and that while in one case the skin merely is affected, in others the disease may be constitutional. It seldom appears among sheep which have been smeared with a salve in which tar is an ingredient, and when it does it proceeds most probably from contact with a diseased animal, a stone, trees, or paling, against which scabbed sheep have rubbed themselves, or lying on a spot where they may have rested. Sheep that have been poorly fed, and suffered to get into low condition, are most liable to be affected; and it is probable that this is one of the chief causes of the disease breaking out.

A sheep is never even slightly affected, but it proceeds to scratch itself, and to rub its sides and buttocks against every thing it meets. As soon as the disease is discovered, it becomes the imperative duty of every shepherd anxiously to examine every animal in his charge, and remove every one that has the slightest symptoms, from the flock. The wool appearing fretted or to have started in any part, is almost a sure mark of infection having taken place.—An ointment of the following composition should be kept at hand:

Corrosive sublimate,	8 oz.
White hellebore in powder,	12 oz.
Whale, or other oil,	6 galls.
Rosin,	2 lbs.
Tallow,	2 lbs.

The sublimate is to be reduced to a fine powder, and mixed with a portion of oil, and also the hellebore. The rosin, tallow, and remainder of the oil are to be melted together, and the other ingredients then added and well mixed. Should the ointment appear too thin, the proportion of oil may be diminished, and that of the tallow increased.

Ordinary smearing stuff, or any kind of salve, with the addition of sulphur, and a small proportion of spirit of tar, has been found effectual. When the disease is not far advanced, an infusion of tobacco, in the proportion of a pound to four gallons of water, and as many of urine, is likewise useful; the young shoots of broom are commonly added for infusion.—Before applying any of these remedies, the diseased parts should be brushed with soap and water; and if the wool is at all in the way, it should be cut off.—Attention being paid to the food of the animals, they

will soon recover. To ward off this disease, keeping the flock in good condition by abundance of wholesome food, is the best and surest defence. But occasionally diseased animals may wander amongst a flock, and on that account shepherds cannot be too assiduous in driving away strange sheep. Attention should also be paid to the walls of the folds or fanks, in the event of any scabbed sheep having been in them. Washing with lime water is the best precaution.

ROT.

This name is applied to different diseases, and diseases are sometimes believed to be more numerous than they really are, on account of various effects of the same disease being taken for distinct ones. The late Dr. Coventry, professor of agriculture in the University of Edinburgh, who was a man of acute observation, makes the following statement in his introductory discourses. "Rot is a word which has been employed to express a variety of disorders afflicting this animal; with no small confusion and detriment. Indeed, in few instances, has senseless indiscriminate done more mischief; for means inept and injurious have been had recourse to, where skilful and timely interference would have had the happiest effects.—Sheep are sometimes said to have the rot; when they labor under *phtisis pulmonalis* (consumption of the lungs), which they do but rarely; or under disorders of the liver, as hepatitis chronica, and that state of the same organ produced, or attended by the *fasciola hepatica* (liver worm), *hydritides*, &c. which affections of the liver are not unfrequent. But the most common rot is still another and very distinct disorder; resembling in many points, and probably the very same in its nature *scorbutis* (scurvy) in the human species, or that *miseranda lues*, that direful ruin of the general health and constitution which silently supervenes from deficient or depraved aliment; and from which, as numerous observations testify, every flock, every sufferer, may be recovered by simple means seasonably used; but against which in its advanced stage, all remedies prove of no avail. Perhaps as the last symptoms of debility are very similar, and are most taken notice of by ordinary observers, the different kinds of rot might conveniently enough pass under the names of pulmonary, hepatic, and general rot."

Many years have passed since the writer of this manual expressed to Dr. Coventry his entire concurrence in these views. But the difficulty still remains to enable shepherds to distinguish symptoms, so that proper remedies may be applied, even when they shall be better known than they are at present. The first disease, consumption of the lungs; may be deemed incurable. The second, liver complaint, which is the disease most commonly called rot, is most likely to yield to purgative medicines, and the application of mercury. And as it is not conceived that this last remedy can be injurious in the case of general rot, the following mode of treatment, may, perhaps, be found as effectual as any other.

As vitiated food is generally and rationally believed to be the cause of rot, especially as it appears to rage most in wet seasons when plants, at other times wholesome, become rank and dangerous; and as the disease in any of its forms is very rare on dry heathy pastures, the first thing to be done is to remove the whole flock from the places where the disease has appeared, to other, and if possible drier, ground; and to separate the diseased animals bringing them home to be cured. A handful of Glauber's or common salt, dissolved in a quart of water, may be given to clear the bowels; and, perhaps were salt placed so that the whole flock might lick it, the effect might be beneficial. Let a part of each side of the sick animals be perfectly cleared of wool, by using a razor after clipping it. On these parts let a portion of common blue mercurial ointment, about the size of a hazel nut, be well rubbed in once or twice in a day, according to the urgency of the symptoms, for a week or eight days.—

The diet should be partly hay sprinkled with salt, with a portion of wholesome succulent food. Measures should also be taken to give due exercise. Mercury, when introduced into the system, acts in removing obstructions, and will probably destroy the fluke worm. It may be proper that the person who rubs in the ointment should have his hand covered by a glove, the palm being made of bladder, else part of the mercury will be absorbed by his hand, and create inconvenience. The rubbing may be a little fatiguing, but if a little oil be used as the skin becomes dry, it will be less so. After eight days the ointment may be omitted, and the effects of it, and of change of diet observed for eight days more; and if decided improvement in the apparent health is seen, the mercury may be discontinued.

It were to be wished, that the plants growing on those pastures, where rot appears most frequently, were examined and compared with those on the pastures where rot does not occur, or is less frequent.—Salt is said to cure the rot, and also putting them to feed on salt marshes. The writer has known cattle to become fatally diseased by feeding on grass that had been recently flooded; and it is quite certain that sheep are always attacked by rot on such grass.

FINING.

This disease is not perfectly understood. It was not known in Selkirkshire until the moles were destroyed, and the moist land drained; and in that quarter it has now become a formidable enemy. This fact shows the risk of too hastily forming theories, and putting them in practice without previous study of nature. "Let well alone," is a pretty safe maxim. A change of food seems absolutely necessary to the welfare of sheep; and this nature proclaims in the wandering habit of the animal.

MAGGOTS.

When on examining an animal that is restless, the tumors under which the maggots are concealed are noticed, they should be freely opened, the vermin picked carefully out, and the sore anointed with smearing salve.

SORE TEATS.

Lambs often perish from their dams refusing them suck. The cause of this is soreness of the teats, or some tumor and inflammation of the udder, in which violent pain is excited by the striking of the lamb.—Washing with sugar of lead and water, or spirits, will remove the disorder, if slight; but if there be much inflammation, poultices must be used to bring on suppuration, and that effected, the tumor must be opened. The lamb is to be put to another ewe, or fed by hand.

FOOT ROT.

This formidable disease appears to have originated among certain flocks abroad; and as it has extended to some parts of Britain in rather an alarming degree where it was before unknown, it is probable that we owe it to the attempts which were made towards the close of the last century, and the beginning of the present, to introduce Merino sheep. All that experience seems yet to have taught us in this country is, that the disease is most inveterate in very dry and in very wet seasons. Sudden change of pasture is also thought to induce it.

Until regular observations and experiments shall have been made under the eye of a medical practitioner, the following history and treatment of it, as published by Professor Pictet, of Geneva, is the best we have; and attention to the facts detailed will lead shepherds to be very careful in examining every new addition to their flocks, and every animal that appears in any degree lame. The memoir was translated, and appeared in the "Philosophical Magazine."

MEMOIR ON THE FOOT ROT.

"I think I shall render service to the proprietors of sheep, by calling their attention to a malady, which to my knowledge, has not been described by the veteri-

narists of any country; and which, to the present moment, appears to have been unknown in France.—The following is the occasion upon which I observed it:—

"In the month of May, 1804, I received from Piedmont a flock of two hundred sheep, of various mongrel breeds, of the second and third generations. The animals came to hand in good condition, but some of them were lame. The flock was placed, with a hundred other mongrels, on a low mountain, the pasturage of which is healthy, and of good quality. We did not pay very great attention to the lame sheep, because, in general, upon a journey, they cripple off from fatigue alone, and their lameness goes off after resting a while. I never yet received a lot of Spanish sheep, among which there were not a few lame ones at their arrival; but this defect was never of long continuance. In the present case, however, the lame animals became worse and worse, and every day others of them began to grow lame, while none of the others grew any better. Not suspecting any contagion, we attributed this affection to the rocky nature of the pasturage, to the frequent journeys which the sheep took from a rivulet to go and feed; and also to the circumstance that the sheep fold was not frequently enough renewed. We took precautions against all these various causes, and yet the lamality continued among the sheep. At the end of six weeks every one of them was lame, and some of them were affected in all their four legs. They crawled upon their knees while feeding, and the worst of them fell off very much in their appearance. It now became indispensably necessary to assist this flock by every means in our power. We removed them to the distance of six leagues. Their removal was not effected without great trouble, and was very tedious; we also had recourse to carriages for conveying the most diseased amongst them. But, in spite of all our care, many fell victims to the disease, unable to bear the fatigue. The different individuals of the flock presented all the varieties of the disease, which may be reduced to three principal ones. The animals, in the first stage of the disease, were only a little lame, appeared without fever, and preserved their appetite.—Upon inspecting the foot, there was only a slight redness discovered at the root of the hoofs, or a slight oozing out of matter round the hoof; sometimes only a slight degree of heat in the lame foot, without any apparent irritation.

"The sheep which had the lamality in the second degree, were lame all fours, had a fever, appeared dull, fed slowly, and were often on their knees, if the fore legs were attacked. Upon inspecting the foot, there was an ulceration, as well at the root of the division of the hoofs, as at the junction of the horn to the leg, accompanied by a fetid whitish sanies.

"Such animals as were in the third degree of the disease had a continual fever; they were meagre and sorrowful, rose up with difficulty, and lost their wool. The ulceration of the feet was venomous, and resembled a white gangrene. Purulent collections were formed under the hoof, and made their appearance at the junction of the horn and the skin. Among some sheep the hoof was detached, or entirely destroyed; and the flesh of the two divisions of the foot was one complete ulcer. In others the hoof had kept on, because the flowing of the purulent matter made its appearance at the sole, and had gnawed and completely destroyed it. In this case the interior of the foot, after turning it up to look at it, offered only a putrid mass filled with worms, contained in the horn of the hoof; the flesh and ligaments appeared completely destroyed, and the bones of the feet were carious; the smell was cadaverous and insupportable.

"We endeavored at first to classify and separate the animals according to the stage of the disease.—The antiseptic lotions, such as red wine, vinegar, extract of bark, and oak bark, were employed; as also the fumigations of nitric acid, to weaken the putrid

tendency, and second the effects of the remedies. I heard, from Piedmont, that the vitriol of copper in powder, as a drying caustic, was very useful at the commencement of the disorder, in checking its progress. We employed it without any remarkable success, upon such animals as were only slightly attacked. It is probable that the contagious influence, which we had not yet learned to guard against sufficiently, had destroyed the effect of this remedy. The acetate of lead, or saturnine extract, was employed with more advantage. Antimonial beer was useful in drying the wound, and the *lapis infernalis* in burning the bad flesh, which was speedily re-produced after the incisions, which accompanied the complete clearing of the feet.

"The treatment of a flock in this miserable situation is extremely perplexing. Four shepherds, and several assistants were employed in taking care of the three hundred lame sheep; and it was an extremely disagreeable business for all of them. The animals were examined every day, one by one; and such of them as were unable to go to pasture were fed in the sheep cot, where the forage was carefully spread out for them, because the sick animals had neither strength nor inclination to pull it out of the racks. It was necessary to renew the litter often, and to perfume the sheep cot several times a day, a precaution which prevented the smell from becoming insupportable to those who dressed the sores. This was not all; the lambs had made their appearance before we had overcome the disease: several of the poor sheep miscarried, or produced lambs which were so weakly that they could not live; others of the lambs died for want of milk, and those which survived took the disease, all of which increased our difficulties. The disease raged with all its violence for three months; and during a whole year many of the animals continued lame. If we calculate the loss of the animals which died of the disease, the loss of the lambs, and the great expenses attending so tedious a cure, we may be convinced that the scab itself, terrible as it is, is a less troublesome lamality than the foot rot, when it is contagious and general in a flock.

"Before pointing out the method of preventing and curing this evil, I shall mention a fact, which will show how far it is contagious, and of how much consequence it is to increase our precautions, in order to get rid of it. The rams, who were upon the mountains at the same time with the diseased flock, took the foot rot. They were separated from the rest of the diseased animals; and, at the end of four months, after having passed through all the usual operations, they appeared to be cured. They still had tender feet, however, and walked with pain; but as the hoof was well recovered, and there was no appearance of ulceration upon it, they were driven to the neighborhood of a Spanish flock. They were placed under a pent house, separated from the sheep cot by a wall. Some of these rams continued to eat out of the racks on their knees, which we attributed to the sole of the foot not being yet consolidated; but at the end of fifteen days we perceived that an oozing out of purulent matter had again commenced at the junction of the horn of the hoof. They were then transported to an infirmary, to be submitted once more to the same treatment. The straw upon which they had lain upon was not taken away; and the Spanish flock having afterwards been sent into the pent house, the foot rot began to shew itself among them in about fifteen days. The rigorous measures and precautions followed, and the treatment I am about to recommend hindered the disease from proceeding any farther in this flock than the second degree, otherwise I do not believe that a single beast would have escaped.

PRECAUTIONS AND TREATMENT.

"At all times, upon receiving a strange flock, it is advisable to keep them separated, until it is well ascertained that they are not infected with the scab, or any other contagious disorder. The precaution is not

less proper in the case of the foot rot; for although there may be no crippled animal in a flock newly come to hand, yet there may be one among them which had been imperfectly cured during the journey and in which the disease may break out anew. If there are any actually lame at their arrival, they must be carefully examined. Sometimes it happens that they may chance to be crippled from some other cause than the foot rot. On a journey the clay sometimes gets hard between the hoofs, and thereby lames the animals. A single glance will suffice to see whether this be the cause of the lameness. Sometimes they are lamed in consequence of the gland between the hoofs being swelled. This is cured of itself, or, at worst by cutting off the gland; and it is not contagious. At other times the animal is crippled merely from fatigue, for which a little rest is the obvious cure. But if the district from which the sheep came is suspected, all diseases of the feet must be examined more cautiously than usual. A heat in the foot is a certain sign of an abscess existing in the hoof, to which an outlet should be given. The animal must then be separated from the rest, and the operation performed which I am about to describe.

"If the ulceration is visible, the place must be cleaned with a rag, and goulard water laid upon the sore, by means of a feather, or the powder of blue vitriol. In order to prevent any dirt, &c. from getting into the wound, the diseased foot should be placed in a little boot, the sole of which is of leather or felt, and the upper part of cloth, in order to fasten it round the leg of the sheep. This precaution is not only favorable to the animal, it also prevents contagion, which seems to be communicated by the pus, or sanies, which flows from the ulcers upon the litter of the sheep fold. But where the disease is situated between the division of the hoof, the boot must be large enough to allow the foot to be moved in its natural way, for if the two divisions were locked together, the disease would fester instead of healing.

"When the disease is seated within the horn of the hoof, it is attended with great pain, without any visible disease. The animal does not rest upon the diseased leg, yet it has all the appearance of being well. Upon putting the hand upon the hoof it is found to be very hot, which is easily ascertained, by comparing it with the sound legs. We must then endeavor to discover on what side the abscess, or interior ulcer is. In order to do this, the foot of the animal must be slightly pressed with the thumb all round the junction of the horn, and the skin as well as the sole of the foot. The seat of the abscess may be easily ascertained by the wincing motion of the foot. This is the place which must be cut with a keen edged knife, so as to occasion the discharge of the matter, and lay the flesh bare. When the wound has bled for some time, a feather, wet with the water of goulard, is laid upon it, and the boot above described put on.

"It sometimes happens that upon pressing the foot with the finger, no place can be fixed upon as being the seat of the disease. This is the case when the abscess is seated below the hardest and thickest part of the hoof. In this case it is necessary to make large incisions, sometimes without any benefit, before finding the disease; and after waiting a day or two, the matter of the ulcer begins to appear, and eats through the horn, in descending to the sole which then becomes painful at the place where it is necessary to make the incision. In general we need not be afraid of cutting into the quick, and bleeding the diseased feet; the horn of the hoof grows again with singular expedition. I have often seen feet which were completely unhoofed; others, of which part only of the horn was taken away, which healed much sooner than such feet as were scarcely ulcerated.

"It would seem that in this disease the juices which administer to the reproduction of the horn, or hoof, exist in greater abundance, in the above places, in disease than in health. When the disease is neglect-

ed, and where the sole of the foot has been gnawed off, and the whole foot ulcerated, I often found that the sides of the horn had sent out cross slips, from one side of the sole to the other, thereby becoming a sort of boot, on which the animal rested without much pain. Sometimes also the horn, in growing again, assumes uncommon shapes.

"The dressing must be repeated every day with the greatest regularity. It consists in removing the boot, and cleaning the wound with goulard water. The other feet of the animal must be examined, as well as the diseased one; for the disease often passes from one foot to another, and it is sometimes visible to the eye before the animal is lame in the foot recently attacked. Some drops of goulard water will then prevent the progress of the disease; when the disease is taken in time, five or six days are sufficient for the cure. If a good deal of horn has been removed it will require a longer time, until the horn has grown again, and assumed sufficient consistence for the animal to walk without being crippled. As long as the least matter is perceived, and the wound is not dry and cicatrized, even although the animal be not lame, it must not be thought cured, for it will carry back the contagion to the flock from which it had been separated. It must not be allowed to pasture with the rest until completely healed; and even then all its four feet ought to be bathed with vinegar for a few days, at first. Unfortunately this malady is subject to frequent returns. I have often seen animals, which appeared to be well cured, which walked perfectly well for fifteen days, and then were again seized. Those which have already had it, so far from being less subject to it, are more exposed to it. This happens from the nature of the treatment. The remedies I have prescribed can only check the progress of the disease; and until we have discovered a purifying specific, we may often see the disease re-appear on the same animal. It is of great importance to be extremely vigilant in placing the animals in the infirmary, and in taking them away in proper time. In the season when the sheep do not leave the fold, the lame ones are not easily discovered, and sometimes not until the disease is of some standing; so that the disease may have been communicated to many others, before the diseased animal is taken away. If the least degree of infection is supposed to exist, the sheep ought to be walked up and down, every day, in an inclosure, in order to observe if any of them be lame. It is also necessary to remove them from the infirmary as soon as the ulceration disappears, because they may take the disease again from those around them. Fumigations of nitric acid are salutary for preventing the smell, and may also hasten the cure of the ulcers. The litter should also be frequently changed; and when removed, it must not be left in a place where the healthy animals are liable to be exposed to it. When these precautions are resorted to, and the cure taken which I have described, there will be no danger that the disease will assume any serious appearance.

"Every thing pertaining to the knowledge of this disease, which is absolutely new in France, and, I have reason to believe, unknown in Spain, is extremely important to the proprietors of merinos, or mongrels. I hope those who are in possession of any new facts, on the subjects of the foot rot will publish them. I obtained from a professional man of Piedmont a succinct memoir concerning this disease. I shall here insert it.

"Sheep, and particularly those with the finest wool, are subject to a contagious whitlow, which hinders them from pasturing; and which, on account of the pain and the suppuration which it occasions, gives them a continual fever, which increases in the evening. They fall off in flesh, and lose their wool; the rams lose their appetite for copulation, the mothers lose their milk, the lambs are weak and die of consumption.

"There are three kinds of whitlow which suc-

ceed each other. The first is seated under the epidermis, between the two divisions of the foot; the animal is seen to halt; if we lay hold of the foot, it feels hotter than usual and it has a bad smell. Upon examining the place, an oozing out of matter is discovered. The second species of whitlow is seated under the horn. In this case the lameness and the heat of the foot are greater, as also the degree of fever. The third species attacks the phalanges, or the bones of the foot, and is caused by inattention to the two former stages of the disease. The cure of this last is very troublesome and difficult. The disease arises from long journeys, pasturing in marshy places, from allowing the sheep to mix with swine, or from lying in damp folds without litter.

"*Preventions.*—1st. Remove, as much as possible, the above causes. 2d. Separate the diseased from the healthy animals the instant the infection appears.

"*Cure for the first stage of the complaint.*—As soon as the shepherd perceives the disease, he must dry the place affected very carefully with a linen rag, and spread over it vitriol of copper, (blue vitriol) in powder.

"In the second species of whitlow, it is necessary to cut off that part of the horn which is detached from the phalange. We should begin cutting at the point of the horn, and proceed upwards. This operation must be performed by paring, successively, thin slips off the horn; when the horn is completely removed, and the flesh bare, the receptacle of contagious matter is discovered. Sometimes it has gnawed very deep, and then the ulcer must be cleaned to the very bottom, by continuing to cut by little and little. In order to clean the wounds thus laid bare, the foot must be plunged into water, heated to such degree that we can scarcely hold the hand in it. The diseased foot must be plunged and replunged into this hot water several times, letting it remain only a few seconds, at each time, in the water. It is then dried with a cloth, and a feather, dipped in muriatic acid, is drawn over the place. The animal must be kept in a fold, where there is plenty of straw, for twenty-four hours. Next day it may be put out to pasture, where there are no stones or thorns. Every night the feet of the animal must be inspected, and if any ulcers are again formed, the treatment must be renewed. They must be always dressed in the evening, because the repose, during the night, greatly contributes to the good effects of the remedies.

"The whitlow of the third species is very difficult to cure. The horn must be cut, and the flesh taken off also, and the carious bone must be then scraped, and seared with a red-hot iron."

"The manner of operating with the knife is extremely well described in the above memoir. The analogy between the treatment of whitlow in human creatures, and that in animals, shows how efficacious the immersion in hot water is, as recommended by the author; and the careful cleaning of the ulcers, upon which he insists, is extremely important. I entreat that intelligent agriculturists may communicate to the public their observations, from time to time, on this disease, and the best method of cure."

To the distinct account of the foot rot contained in the above memoir, nothing can be added. But the method of cure described by M. Picet and his friend does not seem to have been either expeditious or radical. Although M. Picet appears not to approve of the application of blue vitriol, yet there can be little doubt of caustics being useful in the first instance. It is probable that the tardiness of the cure was owing to the very slight dressing put over the sore. It is likely too that the cure would have been hastened by the administration of some cooling medicine internally. The following mode of treatment is suggested to those who may be so unfortunate as to discover this disease among their sheep. Let the animal, in the first place, get a dose of glauca salts. The ulcer, having been laid open and cleaned, is to be washed

with weak caustic ley of potash or soda, or a weak solution of blue vitriol, and filled with scraped linen, dipped in oil; or, what is better goulard cerate. The dressing of cerate is to be continued, every evening, until granulations of flesh appear to be filling up the space formerly occupied by the matter of the ulcer; and if it should be necessary, the washing with caustic ley may be repeated. Common cerate may then be applied; and should the flesh grow too luxuriantly, a little red precipitate and burnt alum may be dusted upon it. When a wholesome suppurative discharge has taken place, gentle pressure may be applied to bring the sides of the sore towards each other, taking care always to give free vent to the matter. The limb should be carefully washed with vinegar and water. This treatment is recommended for most ulcers to which sheep or other animals may be liable, from wounds of the skin having been neglected, or other causes. It would appear that something like foot rot is induced by an overgrowth of the hoof, and when this happens, the hoof must be pared, and treated in the manner already described.

The different kinds of matter which issue from sores, are,

Pus, or the matter of suppuration; it is thick and yellowish white.

Sarx is a thin green colored matter.

Ichor is reddish, and very acid.

Sordes is a gluey kind of matter.

The three last have a much more disagreeable smell than the first.

MISCELLANEOUS.

(From the Journal of Health.)

FLOWERS.

The interest which flowers have excited in the breast of man, from the earliest ages to the present day, has never been confined to any particular class of society or quarter of the globe. Nature seems to have distributed them over the whole world, to serve as a medicine to the mind, to give cheerfulness to the earth, and to furnish agreeable sensations to its inhabitants. The savage of the forest, in the joy of his heart, binds his brow with the native flowers of the woods, whilst a taste for their cultivation increases in every country in proportion as the blessings of civilization extend. From the humblest cottage inclosure to the most extensive park and grounds, nothing more conspicuously bespeaks the good taste of the possessor, than a well cultivated flower garden; and it may very generally be remarked, that when we behold a humble tenement surrounded with ornamental plants, the possessor is a man of correct habits and possesses domestic comforts; whilst, on the contrary, a neglected, weed-grown garden, or its total absence, marks the indolence and unhappy state of those who have been thus neglectful of Flora's favors.

Of all luxurious indulgences, that of flowers is the most innocent. It is productive not only of rational gratification, but of many advantages of a permanent character. Love for a garden has a powerful influence in attracting men to their homes; and on this account every encouragement given to increase a taste for ornamental gardening is an additional security for domestic comfort and happiness. It is likewise a recreation which conduces materially to health, promotes civilization, and softens the manners and tempers of men. It creates a love for the study of nature, which leads to a contemplation of the mysterious wonders that are displayed in the vegetable world around us, and which cannot be investigated without inclining the mind towards a just estimate of religion, and a knowledge of the narrow limits of our intelligence, when compared with the incomprehensible power of the Creator.

Flowers are, of all embellishments, the most beautiful; and of all created beings, man alone seems ca-

pable of deriving enjoyment from them. The love for them commences with infancy, remains the delight of youth, increases with our years, and becomes the quiet amusement of our declining days. The infant can no sooner walk than its first employment is to plant a flower in the earth, removing it ten times in a hour to wherever the sun seems to shine most favorably. The school boy, in the care of his little plot of ground, is relieved of his studies, and loses the anxious thoughts of the home he has left. In manhood our attention is generally demanded by more active duties, or by more imperious and perhaps less innocent occupations; but as age obliges us to retire from public life, the love of flowers and the delights of a garden, return to soothe the later period of our life.

To most persons, gardening affords delight as an easy and agreeable occupation; and the flowers they so fondly rear, are cherished from the gratification they afford to the organs of sight and of smell; but to the close observer of nature and the botanist, beauties are unfolded and wonders displayed, that cannot be detected by the careless attention bestowed upon them by the multitude. In their growth, from the first tender shoots which rise from the earth, through all the changes which they undergo to the period of their utmost perfection, he beholds the wonderful works of creative power; he views the bud as it swells, and looks into the expanded blossom, delights in its rich tints and fragrant smell, but above all, he feels a charm in contemplating movements and regulations before which all the combined ingenuity of man dwindle into nothingness.

Prices Current in New York, July 21.

Beeswax, yellow 18 a 20. Cotton, New Orleans .104 a .19; Upland . . . 11; Alabama .9 a 11; Cotton Baggins, Hemp, . . . 144 a 15; Flax 13 a 14; Flax, American, 7 a 8. Flaxseed, 7 bush. clean . . . ; rough . . . ; Flour, N. York, bbl. 5.75 a . . . ; Canal, 5.87 1/2 a 6.12 1/2; Balt. Hwd-st. 6.50 a 6.62; Rhd. city mills . . . a . . . ; country, 6.00 a 6.37 1/2; Alexand'a, 6.97 a 6.75; Fredericksburg . . . a . . . ; Petersg. 5.87 a 6.25; Rye Flour, 4.37 a . . . ; Indian Meal, per bbl. 3.37 a . . . per bhd; 16.00 a . . . ; Grain, Wheat, North, . . . a . . . ; Vir. . . a . . . ; Rye, North, 80 a 82; Corn, Yel. Nor. 63 a 70; Barley . . . a . . . ; Oats, Sth. and North, 44 a 53; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess 9.50 a 10.75; prime 5.37 1/2 a 6.00 cargo . . . a . . . ; Lard, 7 1/2 a 9 1/2; Pork, mess, bbl. 12.75 a 14.00; prime 10.25 a 10 81.

VALUABLE COW AND CALF FOR SALE.

A COW, six years old, with a young BULL CALF, of the celebrated Teeswater and Holderness Breeds, will be sold cheap if immediate application be made. The ancestors of these animals, (a full bred Holderness Bull, and two full bred Teeswater Heifers) were brought to this country by Richard Parkinson, of Doncaster, (England) and their progeny have been kept unmixed to the present time. This cross is said to be the origin of the Short horn Durham Cattle. The breeder of the Cow and Calf, (in whose possession the breed has been since their arrival from England,) prefers this race, as milkers, to any other. The Calf is a fine formed animal three months old. Apply to I. I. Hitecock at the Office of the American Farmer.

TURNP SEEDS.

As the season for sowing Turnips is at hand, we offer for sale at the American Farmer Office and Seed Store, the following choice kinds of Seeds, which may be relied on as fresh and genuine, viz.

EARLY DUTCH, WHITE FLAT
EARLY WHITE DUTCH, RED TOP
GARDEN STONE, YELLOW FLAT
YELLOW ABERDEEN, RUTA BAGA
LARGE NORFOLK FIELD, YELLOW BULLOCK

Also the following choice PUMPKIN SEEDS:
Connecticut Field, or Northern; Mammoth; Pennsylvania Field, and Cushaw.

DURHAM SHORT HORN BULL CALF.

A full blood improved Durham Short Horn Bull Calf, by Gloucester, out of a first rate thorough bred Cow, four months old, well formed, of good size and points, for sale by the Editor of the American Farmer. Price, if immediately taken, \$150. Apply to I. I. Hitecock, office of the American Farmer.

IMPROVED MILCH CATTLE WANTED.

A young Bull, not vicious; and a few Heifers, or Cows, of the Improved Shorthorn Durham, of pure blood; or cross on the North Devon, or Alderney stock, of pure blood, may find a purchaser at fair prices, if their owners will direct a line to the post-master, at Tye River Mills, Nelson County, Virginia, giving the pedigree, size, color, age, capacity for milk and price. It is for the quantity and quality of their milk that they are sought; and it will be no objection if they are of moderate size only. It is all important that they be descended from Cows that give quantities of rich milk. Cows in calf by an improved Shorthorn Durham Bull, would be preferred.

St July 27.

ORCHARD GRASS SEED WANTED.

The subscriber wishes to purchase a few hundred bushels of PRIME ORCHARD GRASS SEED, that is clear from noxious seeds, for which cash will be given.

J. S. EASTMAN,
Pratt street, near Hanover.

Who has in store RUTA BAGA and TURNIP SEEDS, and a general assortment of GARDEN SEEDS, thirty-four pounds EARLY YORK CABBAGE SEED, just received from London.

Also, his general assortment of AGRICULTURAL IMPLEMENTS, such as Wheat Fans, Corn and Tobacco Cultivators, Corn Shellers, Harrows, his Patent Cylindrical Chain Cutters, and common Dutch Cutting Boxes, &c. &c. Wrought and Cast Share PLOUGHS, of all sizes, from a small six inch Seed Plough, to the largest Three Horse Plough, all of which are made of the best materials and warranted, and with his very reduced prices, he hopes to merit a liberal patronage.

J.S.E.



CORN CULTIVATORS, HARVEST TOOLS, &c.

The subscribers have prepared a good stock of CORN CULTIVATORS, both wrought and cast times; GRAIN CRADLES, with best quality warranted Seythes attached; GRASS SCYTHES and SNEADS ready hung or separate; Steel Hay, Grain, Manure FORKS and improved Wheat Fans. They are also now manufacturing and preparing to furnish Lane's Patent THRASHING MACHINE at \$75. Horse Powers \$75, which, together with their usual stock of Ploughs and other Agricultural implements, are offered for sale on accommodating terms.

Also a supply of SWEET POTATO ROOTS, for planting.
June 1. Grant street, near Pratt street wharf.

TURNP AND CABBAGE SEEDS, &c.

The Subscriber offers to the public a quantity of Red Top and White Stone TURNIP and RUTA BAGA SEEDS, together with an assortment of GARDEN SEEDS, suitable to the season. Also, a quantity of Early York CABBAGE SEED, just arrived in the John and Elizabeth at New York; from London, which has reason to believe will be of fine quality.

J. S. EASTMAN,
No. 36 Pratt street.

BALTIMORE PRICES CURRENT.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 5.00 a 15.00; yellow and red, 8.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a . . . —Happanhook, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 276 hhd. Md.; 108 hhd. Ohio; 66 hhd. Ken.; and 2 hhd. Vir.—total 452 hhd.

Floor.—best white wheat family, \$7.25 a 7.50; super Howard-street, 6.00 a 6.12 1/2; city mills, 6.00 a 6.12 1/2 vsug. a . . . ; CORN MEAL, bbl. 3.50; GRAIN, best red wheat, \$1.15 a 1.20; white do 1.20 a 1.30; vsug. a . . . ; CORN, white, 61 a . . . ; yellow 63 a . . . ; 1st, 60 a 62 —OATS, 44 a 45.—BEANS, 15 a 16.—PEAS, 65 a 70.—CLOVER-SEED a . . . —TIMOTHY, a . . . —ORCHARD GRASS a . . . —Tall Meadow oat Grass a . . . —Herd's, 75 a 87 1/2.—Lucerne a 87 1/2 lb.—BARLEY, FLAXSEED 1.50 a 1.62.—COTTON, Va. 8a10—Lou. 9 a 15.—Alab. 8 a 11 1/2.—Tenn. 8 a 10; N. Car. 8 a 10.—Upland 8 a 11.—WHISKEY, hhd. 1st p. 32 a . . . ; in bbls. 33 1/2 a 34.—Wool, Washed, Prime or Saxony Fleeced 50 a 60; American Full Blood, 45 a 50; three quarters do. 40 a 45; half do. 35 a 40; quarter do. 30 a 35; common 25 a 30. Unwashed, Prime or Saxony Fleeced, 30 a 35; American Full Blood, 27 a 30; three quarters do. 25 a 27; half do. 22 a 25; quarter do 20 a 22; common, 17 a 20 Henr. Russia, ton, \$20 a . . . ; Country, dew-rotted, a 7c lb. water-rotted, 7a 8c.—Feathers, 36 a 37; Plaster Paris, per ton, 4.37 1/2 a . . . , ground, 1.50 a . . . bbl. Iron, gray for foundries per ton 33.00 a . . . ; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.00 a 5.50.—Oak wood, 3.00 a 9.25.—Hickory, 4.50 a . . .

CONTENTS OF THIS NUMBER.

Letter from Philo White, Esq. giving an Account of several of the Productions of South America—Excursion on the Halifax River, in East Florida, with a Description of the Country, and an Account of its Productions, by John James Audubon—Why Port Wine is most Commonly Exported in Full Pipes—Why Branded Port Wines are of inferior Qualities—Account of an Agricultural Excursion, Undertaken during the Spring of 1832, by John D. Legare, Esq. Editor of the Southern Agriculturist—Dr. Jeremiah Spofford's Essay on Irrigation, with Accounts of Experiments made with the View to Test its Advantage—Extracts from the Minutes of the Pennsylvania Horticultural Society—Why Autumnal Fruits are more Indigestible than those of Summer—The Mountain Shepherd's Manual, part iii, Diseases concluded; Scab, Rot, Pinning, Maggots, Sore Teats, Foot Rot, History of the Foot Rot by Professor Pictet, of Geneva, its Contagious Character, How Propagated, Precautions and Treatment, Preventives, Manner of Curing the Different Stages of the Complaint—The Love and Cultivation of Flowers Conducive to Morality and Health—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, basement of Barnum's City hotel,) by I. IRVINE HITCHCOCK, on the following

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged by the year, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be entered at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of back notes sent in payment for it, is assumed by the publishers.
5. Advertisements connected with any of the subjects of the American Farmer, inserted free, (beyond more at one dollar per square.)
6. All letters concerning this paper must be directed to the publisher.

They must be free of postage, except communications intended for publication, and addressed containing money.

(Gf) All Postmasters are requested to act as agents for the Farmer; they are authorized to retain \$1 for each new subscriber, and 10 per cent. on all other collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, AUGUST 3, 1832.

A most afflictive event in the family of the editor of the American Farmer, must plead his excuse for the omission of editorial matter in the last number. The letter from Mr. White, our Navy Agent at Valparaiso, should have been accompanied by an explanatory notice; but it will do now.

The *Alfalfa* seed sent by Mr. White is the common lucerne grown in this country, as we remarked a few weeks since in a notice of a similar parcel of seed sent by him to Carolina. We have several times received this seed under the same name, and have some now growing, which leaves no room for doubt. Besides, the Spanish name of lucerne, (*Medicago Sativa*), is *Alfalfa*, the same as that given as the common name in Chili of the seed sent us.

The *Caravanzas* are the *chick-peas* of the English, *Cicer arietinum* of botanists, which we have long had under cultivation in our garden. They are much used in Cuba and Spain, as well as Peru and many other parts of South America; in this country they are generally called Spanish peas. They are probably the most delicious vegetable of the class that ever was placed upon the table; but in consequence of their unproductiveness in this country, will not probably be very extensively cultivated. They cannot be cultivated at less than four times the price of the common garden pea—and yet we are not sure that those who once eat them, served up as green peas, would not be willing to give a still greater price for an occasional mess. They are a most beautiful plant in the garden, and are often cultivated for ornament, without even a suspicion of their high value as an esculent.

The onion seed is also common in this country, and the difference between the onions of Chili and the United States, is to be attributed exclusively to the better adaptation of the soil and climate of the former.

Mr. White has given a better account of the "Payta cotton" than we are able to. The sample he has sent us, is certainly excellent, and we should judge superior to the common range of Carolina uplands. We shall take pleasure in sending a specimen of this cotton to any of our southern friends who may desire it.

The barley mentioned by Mr. White, has unfortunately not come to hand, which we regret the more as we have heard something of its superior qualities overseas.

We have thought it to be our duty thus to notice the seeds sent us in this instance, to save our friends the trouble and expense of obtaining the same information by experiment. For it would be very vexatious after a year's labor and incessant anxiety, to find that the objects of their attention were nothing but lucerne, chick-peas, and white Spanish onions, all which they may most probably have had before.

But in this notice we must not be understood as underrating the value of the services of the spirited individual who has sent the seeds home. It cannot be expected that our public men possess that practical horticultural knowledge, that would enable them invariably to distinguish between such plants as are those that are not cultivated in the United States—especially varieties of plants which are affected by the peculiarities of soil and climate where they are found; and hence that they should often send home seeds and plants already under culture, is not at all surprising. Indeed, we have often received seeds of our own most common weeds, as valuable flower-seeds. Therefore we hope, that this performance of what we consider a professional duty, will not be allowed to cause a suspension of future collections. It is hoped Mr. White and all others of our public agents will continue to send home whatever they may consider

valuable and not yet introduced, and we will take care as in this instance, to ascertain which are and which are not valuable.

WOOL.—FREDERICK SHEEP.—We have received from R. K. Meade, Esq. of Frederick county, Va. some samples of the wool of his improved Frederick sheep, for distribution among those interested in raising sheep, and have thought that the best mode of fulfilling the intention of the patriotic donor would be to request those who may desire to see it to apply by letter or otherwise. The samples can be conveniently sent by mail without much expense, and are a very appropriate illustration of some late articles on the subject written by Mr. Meade and published in the Farmer. For ourselves we have no hesitation in saying that the Frederick sheep are superior, take them all in all, to any other breed now in the country.

PERSIAN TOBACCO.—We have received from Messrs. Wm. Prince & Sons of the Linnean Botanic Garden at Flushing, a small parcel of Sheraz tobacco seed for distribution, and shall take pleasure in sending some to those who may wish to make trial of it. The following account of the mode of its culture in Persia was written at the request of Sir H. Wilcock, and by him sent to the New York Horticultural Society.

On the cultivation of tobacco in the Persian Province of Fars, commonly called the Sheraz tobacco—by Dr. Riach, of the Honorable East India Company's Medical Service.

In December, (which is about the middle of winter here) the seed is sown in a dark soil which has been slightly manured (red clayey soil does not do.) To protect the seed and to keep it warm, the ground is covered with light thorny bushes, which are removed when the plants are three or four inches high, and during this period the plants are watered every four or five days—only, however, in the event of sufficient rain to keep the soil well moistened, not falling. The ground must be kept wet until the plants are 6 or 8 inches high, when they are transplanted into a well moistened soil which has been made into trenches for them; the plants being put on the tops of the ridges 10 or 12 inches apart, while the trenched plots are made so as to retain the water given. The day they are transplanted water must be given to them, and also every five or six days subsequently, unless rain enough falls to render this unnecessary. When the plants have become 24 to 31 feet high, the leaves will be from 3 to 15 inches long. At this period, or when the flowers are forming, all the flower capsules are pinched or twisted off, after this operation and watering being continued (and irrigation is the system universally employed throughout) the leaves increase in size and thickness until the month of August or September, when each plant is cut off close to the root, and again stuck firmly into the ground. At this season of the year heavy dews fall during the night; when exposed to these the color of the leaves change from green to the desired yellow. During this stage, of course no water is given to the soil. When the leaves are sufficiently yellow, the plants are taken from the earth early in the morning, and while they are yet wet from the dew, are heaped on each other in a high Kupper house, (a shed, the walls of which are made with light thorny bushes or such like) where they are freely exposed to the wind. While there, and generally in four or five days, those leaves which are still green, become of the desired pale yellow color. The stalks and centre stem of each leaf are now removed and thrown away—the leaves are heaped together in the drying house for three or four days more, when they are in a fit state for packing. For this operation the leaves are carefully spread on each other and formed into sorts of cakes the circumference four to five feet, perhaps, of the bag, and 3

to 4 inches thick, great care being taken not to break or injure the leaves.

Bags made of strong cloth, but thin and very open at the sides are filled with these cakes and pressed very strongly down on each other—the leaves would be broken if this were not attended to. When the bags are filled they are placed separately in a drying house, and turned daily until they are transported, when a second bag like the first is sometimes put on. If the leaves be so dry that there would be a risk of their breaking during the operation of packing, a very slight sprinkling of water is giving to them, to enable them to withstand it without injury. The leaf is valued for being thick, tough, and of a uniform light yellow color, and of an agreeable aromatic smell.

In the vicinity of Sheraz, November and December are cool; January and February more so; these may be considered the winter months. In December and January snow falls not unfrequently; the hills are covered with it some months, but it seldom lies any considerable time on the plains. March and April may be considered the spring, (though then the sun during several hours of the day is extremely powerful) and the remaining months till November again, are the very hot summer and warm autumn of these parts.

The crops of wheat are generally cut down in July, or even as late as August.

Sheraz, April 7, 1831.

SUPPLY OF WATER.—INQUIRY.

MR. SMITH: *White Post, Frederick Co. Va.*

Many of the farmers of our limestone country are dependent on artificial ponds for the supply of their stock at all seasons. In the summer they are frequently low and afford an indifferent substitute for running water—in the winter often frozen to the bottom—added to this, physicians pronounce them to be unhealthy; in former days they were not, but there is too much reason to believe them so now. In conversation with a gentleman who was lately our minister in Spain, I learned that they derived their supplies of fresh water there by the aid of a mule attached to a simple machine, lifting it from the bottom of deep wells. Are there any such in operation in our own country? If so, a plain description of one would no doubt confer a great favor on many who have to labor hard with pumps or windless, to raise more than an ordinary quantity of water.

Yours, &c.

A FARMER.

P. S. State the cost of the machine, let it be as simple as possible.

[We know of nothing of the kind in this country, except the machinery at Orange Farm, near this city. On that farm all the water used by a large stock of cows and other animals, (amounting to about one hundred) and in an extensive dairy, is drawn from deep wells by dogs, by means of a very simple wheel attached to a common pump; for a drawing and description of which, see American Farmer, vol. 10, page 239.]

Deputed this life after a short but severe illness, on Monday, July 23d. ELIZABETH SMITH, consort of Gideon B. Smith, Esq. in the 33d year of her age. In noticing the death of this lady, her friends feel it to be their duty to say that in her life she was exhibited a sweet and amiable disposition which much endeared her to her friends and acquaintances, and to her own family in particular she manifested the affection which became a wife and the tenderness which should characterize a mother, which renders her loss the more distressing to her husband and their three surviving children. From her exemplary life we have good ground to hope that her peace was made with God, and that in the last mortal combat she gained the victory through the blood of the Lamb.

AGRICULTURE.

(From the Virginia Republican.)

DURHAM SHORT-HORN CATTLE.

Lucky-hill Farm, near White Post,
Frederick Co. Va. July 14, 1832. }

MR. BROOKS:—I send you some agricultural papers with the hope they will get admittance into the Republican, and trust that the interest of the subject will be an apology for the manner of its appearance, and the necessity of an individual's being so conspicuous throughout their pages. I am, very respectfully, yours,
R. K. MEADE.

To the gentlemen of a Committee raised to examine into the merits of the Frederick Short-horn cattle.

GENTLEMEN:—The subject to which I am about to call your attention is too notoriously important, and generally interesting, to make it necessary that I should urge any thing recommendatory in its behalf. But a respect for the committee who most obligingly have undertaken to investigate it, demands from me at least a brief exposition of the motives and views which have led to its presentation, and an acknowledgment of the obligation to be conferred not merely on an individual, but also on the community. Fortunately it is beginning to be better understood, that when an individual succeeds in any useful enterprise, the community consequently share in time a great and indefinite benefit—though it is true that enterprises should be characterized by prudence as well as zeal, to avoid the too frequent sacrifices made in abortive attempts to improve, where there is perhaps an incompetency of knowledge and means.

Under these impressions you have been solicited to lend your aid to the consideration and diffusion of the advantages of improving our farm stock. I am thoroughly convinced you have it in your power to render much more service to the general cause of husbandry in your collective capacity, than you are individually aware of: the interchange of sentiment and experience amongst a body of intelligent farmers, feeling and acting in a common cause, would impress on their brethren a spirit for improvement, never to be effected by interested experiments, or breeders of any species of animals. We are all deeply interested in agricultural improvements generally, and especially those who are the privileged partakers of the choicest fruits of their labor. I will hazard an opinion that the most neglected portion of our domestic animals, and the most absolutely essential, because they unite the greatest number of useful qualities (namely, cattle and sheep,) require more skill and experience than any other, from the known difficulty of bringing to great perfection qualities which, individually, would become pre-eminent with the application of far less skill.

Unthrifty and unproductive races of both these animals require the peculiar care and attention of husbandmen; it is therefore that I have taken the liberty of soliciting your attention to the correct weighing of four Frederick Durham Short-horn bulls in the market scales of Winchester—namely, Powell, aged 3 years and 37 days—Jackson, 1 year, 11 months and 7 days—Frederick, 14 months—and Henry Berry, 13 months, 23 days. Frederick is the animal from which will be attempted to raise an original and independent race of cattle (as far as a cross can be so considered,) called the Frederick Short horns, on the choicest selection of native cows, originally of the best English stock, and the half bred calves of the Durham Short-horn bull Edward—and your opinion in regard to their form and apparent qualities. This opinion, it is expected, will be given with perfect freedom, as no doubt it will be to the best of your judgment, as the representative of the breeding, and general farming interest, and as a defence against any pretensions not founded on the

most reasonable and apparent prospect of imparting benefits to the community through the intervention of peculiar races of stock.

By some it will no doubt be esteemed presumption to attempt any real improvements on the Short-horned stock—particularly those who prefer beauty to essential qualities—symmetry to a combination of useful properties;—but I believe they are at this moment undergoing an overhauling for the better, by one of the most candid and judicious breeders in England, the Rev. Henry Berry, a gentleman who, as far as can be judged of from his writings, is not merely laboring for fame or gold, but is consistently applying his peculiar discernment to the improvement of cattle for general purposes, without countenancing the idea that it is possible to bring to full and equal perfection all their useful qualities in an individual animal.

Circumstances will not permit any critical remarks at present—but let the question be asked, why may we not attempt to rival the excellence of the mother country in the important art of breeding fine animals? A report from a committee of farmers may have the effect of opening a field for future observation highly propitious to the general improvement of our stock. Should the weight of the animals offered for your inspection greatly exceed others of the same age and greater height, you will be pleased to say what you believe to be the reason of it, independent of their acknowledged good keep and order.

In conclusion, permit me to suggest that a standing committee of the most intelligent of our farmers, in every county of the state, might, with but little trouble to themselves, excite a most improving interest by deciding on the merits of every kind of stock, and agricultural implement, offered for examination.

I am, very respectfully, gentlemen, your fellow-farmer,
R. K. MEADE.

REPORT.

We, the undersigned, a committee raised at the request of Mr. Richard K. Meade, of this county, for the purpose of attending to the weighing of several fine bulls of the Durham Short-horn breed, which were exhibited by that gentleman on Monday last, in Winchester; also of giving our opinions upon their quality and the advantages of encouraging generally the breed of a stock springing from a cross of these animals upon our best English cows—have attended to the trust, and present herewith a report.

First—their weight. Powell, whose age is 3 years and 37 days, weighed 2,145 lbs. proved by our personal inspection and the certificate of the town weigher, Mr. Robert Brannan. Jackson, aged 1 year and 11 months, weighed 1,405 lbs. Frederick, aged 14 months, weighed 1,105 lbs. Henry Berry, aged 13 months and 20 days, weighed 960 lbs.

Their form, condition, and quality.—The committee, together with a crowd of spectators, were highly pleased with the appearance of these animals. They are distinguished by immense breadth of back—capacious, full bodies—small neck and head, short legs, and beauty of skin. They were fat and well kept, and much more tractable than like male animals usually are. Whether they are more manageable from the attention paid them, or it is a quality peculiar to this breed of cattle, we are not sufficiently informed.

We discovered, we thought, a great difference in the bulls—Powell and Frederick, of variegated and spotted colors, being very superior to the two dark colored bulls, Jackson, and Henry Berry. The name of one of the latter, however, will probably make him a great favorite in Frederick—even should his qualities not be quite so good.

Situated as Mr. Meade is, upon a beautiful and fertile farm, surrounded by wealthy and enterprising neighbors, he has had it in his power to effect much good by his successful experiments with stock. Nor can we withhold our thanks to him for his laudable

efforts to introduce into the valley a distinctive race of cattle, uniting the properties of the Durham Short-horn with those of the best English cows of the country. We have no doubt he will be able to satisfy the least enterprising and most cautious farmer of the county, that motives of interest alone should impel him to encourage a stock which will yield him more beef at an earlier age, supplying his dairy with more milk, furnish his farm with better oxen, and all with as little if not less expense than is usually bestowed upon the common stunted runts of the country. Adverting to the ages and the weight of those exhibited, how very superior to the best attended stock of the ordinary breed!

It is the wish of the committee not merely to encourage Mr. Meade in a praiseworthy enterprise, but to excite a greater attention, on the part of themselves and of their agricultural brethren, to this subject, and throw open a field for future observation propitious to the general improvement of our stock.

Respectfully reported, &c.

R. W. BARTON, JOHN GILKESON,
ROBERT VANCE, THOMAS WILSON,
SAMUEL GARDENER, JAMES GIESON,
JAMES B. HALL.

REMARKS.

The above report, subscribed by seven reputable farmers,—all but one justices of the peace,—it is hoped will be sufficient authority for the facts therein stated, and have a decisive effect, so far as the evidence goes, in convincing farmers of the value of improving their cattle by crosses from some well-established breed. The milking properties of the short-horn crosses will be communicated as soon as the truth can be arrived at, by fair and undoubted experiments. Half a dozen cows, with their calves, will be exhibited in Winchester before a committee, probably in the month of October, with the view of exciting a further interest, on an approaching certainty anticipated in their final result. It is not at all wonderful that from some exaggerated accounts and experiments, however undoubted as facts, though not general enough to be depended upon, that so much scepticism should be produced. There certainly lies some mystery in combining to a most transcendent degree of perfection in any one race of cattle, the several qualities of beef, milk, superior work oxen, and withal fineness of form and symmetry of appearance. It has required much experience, and great accuracy of observation, to accomplish all that really has been done to make the Durham short-horns unequalled as a combination breed. But let them be separated into three distinct breeds—beef, milk, and working cattle. I will venture an opinion, from a somewhat limited experience on them, but a sufficient one on sheep breeding, that much superior animals in the general could be raised of either kind; for it is certain that any preponderance in favor of one quality or propensity, would deduct from that of another. Naturally, or perhaps rather by long improvement, it will be believed, until more light and information is thrown on the subject, that the greatest propensity of well formed improving animals is to fatten; and although it requires long experience and great skill to bring even one of these qualities to perfection, still there is less difficulty in that respect than to produce a like perfection and uniformity in the races of milk animals, which require a peculiar education added to the propensities introduced by blood, (an education best known by those who have but little literary acquirement,) to bring them into a state of extraordinary profit. Neither does it require a small share of skill or judgment to procure a race of cattle best adapted to the yoke, requiring, as it does, peculiar form to admit of a combination of activity, strength, and lungs to endure heat. Length, breadth and roundity, are the great outlines of the best beef cattle—whereas the work ox must be more flattened in the sides, with less length and breadth.

Speculations might arise, and a very interesting argument be founded, on which breed first rate milk cows may be associated with to the greatest advantage. "Only those who have had long experience and a critical knowledge of the subject, can engage in it to any advantage. The report of the committee recognise two of the bulls to be inferior to the others; it is quite flattering to the discriminating judgment of our farmers, to have made such distinction. The two they have thought inferior, are marked by the strongest traits of the character of work-oxen, and have far less symmetry than the race supposed to combine the essential qualities of the short-horns;—this depends, however, in different degrees, upon the cows they are bred from. A working-cattle herd will also be encouraged with a view to individual convenience, as well as general supply.

On the present occasion I will offer you a portion of the testimony of the Rev. Henry Berry, of Aston Lodge, England, and of Mr. Barnitz, of York, Pennsylvania, whose practical efforts are well enough known to excuse any notice of his superior opportunity and success in the breeding of short-horns.—From that source a domestic supply can be obtained at a moderate price. Those who can afford to import, can judge from the extracts which follow, from the prize essay of Mr. Berry, what they may have to expect from his eminently superior intelligence and candor. He offers his services to American breeders. These extracts are offered with the view of sustaining what has been advanced from the little experience of preceding opinions, and it is much regretted that more frequent and regular opportunities of conveying such intelligence to farmers should be wanting.

Mr. Berry says, "the great access of knowledge, during late years, on all subjects connected with an improved system of rural management, includes among its numerous beneficial results, that of an improved breed of cattle. The advantages attending such improvement will be better understood, and more justly appreciated, if we reflect, that while superior modes of tillage, accomplished by the introduction of superior implements, skillfully applied to their several peculiar purposes, have tended greatly to increase our agricultural produce; improved breeds of cattle have also sprung up, which, with increased quantities of vegetables or other food, applicable to their support actually require less for the purposes of rearing or fattening than was the case when the productions of the soil were less abundant.

"It is hence apparent, that the advantages derived under such circumstances are two-fold, and therefore perhaps it is not unreasonable to hope, that agriculture, with adequate protection and the encouragement afforded by numerous societies, established throughout the kingdom, will for ages continue to multiply the blessings of increase to a still growing population.

"With a laudable desire to extend the limits of useful knowledge, the Liverpool agricultural society has proposed the herding and rearing of cattle as the subject of an essay; and the writer of that now submitted to consideration, conceives he cannot better promote his object, so far as his abilities allow, than by excluding from this paper every thing of a fanciful or merely theoretic nature, and adhering to what experience has taught him to consider useful facts."

With the hope that our political papers will copy this essay in full from the American Farmer, very short extracts will be made:

* Our committee have also suggested their belief that an improved breed will take as little, if not less food, to keep them, than the miserable, ill-shaped, unthrifty animals of the country, to all appearance made more for eating than for any thing else. The occasion will not permit us to show how it is that cattle of peculiar form will consume less food to more profit than others—all this may yet appear in due order.

"The first principal rule in which the improver of cattle will find the means of attaining his object, is the well known rule that 'like will beget like,' a rule which applies with equal force of truth to good and bad animals, to good and bad qualities; and the breeder's attention and skill will be most apparent, and best rewarded, who so manages the breeding of his stock, that the good shall preponderate in a considerable degree. Various opinions are entertained, as to the most proper form of animals, just as breeders happen to have adopted the kinds which prevail in different quarters of the island; and it is not uncommon to hear men, by no means generally deficient in judgment, requiring the characteristic of one breed in another totally different; whereas, it is quite clear, that to assert, a short-horned bull is the model by which a Hereford, or long-horned or Devon bull, should be formed, is an absurdity."

A little of our experience will be pardoned here, being so very coincident with the above remarks, it is hoped. The Frederick sheep and short-horns have in some instances been criticised abroad—the sheep were expected to carry their fine and large fleece on a Lincolnshire frame, weighing from 50 to 40 lbs. per quarter; whereas it is doubtful whether human skill could raise them higher than from 20 to 25, on an average, without sacrificing the wool in its quantity and quality. The short-horns have not been apparently large enough; they have perhaps come in contact with some English breeds of great height and length—giants in superficial appearance, but perhaps 25 per cent. under the weight of a short-horn, with double the food to sustain them. When will our animals be estimated rather by their bulk than their height—the facility of reaching their food from short legs, with a more speedy consequent benefit, than the increased difficulty of supplying a frame requiring more food and more quiet? The following are Mr. Berry's directions as regards form:—

"Wide and deep girth round the heart and lungs; broad level loins, extending their width well forward; large, long, and as much as possible hooped ribs, sitting close into, and leaving little space between them and the hips, which latter should be round, large and full in the hand—deep, large flank—twist full and low, allowing as little light as possible to be seen between the thighs, and extending their junction the nearer the hocks the better—legs short, the bone not being so fine as to indicate delicacy of constitution.—Other perfections of form there are, which, being more dependent on individual taste and fancy, and such as the eye in search of a level, good looking frame, will easily supply, it is not deemed particularly necessary to notice." "Of the foregoing observations, or what the writer considers essentials of form, his recommendation of short legs, with bone not too fine, will probably be dissented from. The transition from absolute coarseness to remarkably fine bone, has at all times obtained the warm admiration of the superficial observer. It is an improvement so easily traced by the most unpractised eye—it works conviction on the consumer, through the medium of the pocket, so fully and irresistibly,—that it may well appear a forlorn hope to endeavor to destroy the delusion. The advantages of a considerable reduction of the bone are fully admitted as one of the great triumphs of improved breeding. But if from unduly overvaluing such reduction, it has been pursued beyond the bounds of expediency and safety, which the writer thinks it has, then this caution is not interposed without reason." "Many persons entertain an opinion that it is impossible to obtain great weight on short legs, while many others, to their disgrace be it written, defend the opinion without really entertaining it. This remark has been more particularly called forth by the recollection of a circumstance which once occurred to the writer. On the occasion alluded to, he inspected the stock of a very celebrated man, an advocate, for these obvious reasons, of animals on long legs. A number of bulls were paraded forth on the occasion, but every one of them carefully led, while

out, up to the belly in straw!" Is commentary necessary? The importance of good handling is duly insisted on by Mr. B. as essentially necessary to determine the qualities of the animal—or in other words, to discover what the flesh is by the feeling of the hide and hair. "The indications of good milking are so well known, it is not requisite here to describe them; it may not, however, be amiss to remark, that in a breed of cattle improved greatly in the quality and quantity of flesh they carry, equal attention may not have been paid to milk, as to those matters; and it may be as well for the person selecting, with a view to acquiring a superior stock, to ascertain that he selects from a family in which good milking prevails. On this topic a fact shall be stated of which the reader may make what use he pleases. It is considered objectionable to have a cow gutty or great in the body; and certainly, where this exists in the extreme, it is unsightly at least. The writer, however, has seldom seen a great milker without this peculiarity, so true is it, that in laying down rules for form, dictated by the fastidiousness of the eye, what may be essentially useful is too often disregarded." "It is believed that a stock bred upon the principles advocated in this essay, cannot fail to be productive of advantage, equal at least to that which may be derived from a system more in accordance with the fashion of the day. Fashion patronizes the producer of showy, and what are termed elegant animals.—These once had their warm admirer in the writer, but the experience and losses of some years, have taught him to disregard elegance without usefulness; to conclude that a stock of cattle ought to be profitable under economical management, and not barely exist, under every attention to accommodation and food. In short, he has endeavored to breed such a stock as should in every sense, meet the difficulties of the times, and if the depressed state of agriculture required, it should be able to endure the severest hardships and privation which cattle, bred with a view to the ordinary scanty measure of remuneration, must frequently undergo. On any other principles he could not have succeeded; to this is owing the frequency with which he dwells, perhaps the tediousness, on the absolute necessity of hardy constitution."

Many other interesting points would be introduced, but tearing them from their connection would be great injustice to the general essay. Mr. Barnitz, after mentioning in the American Farmer, some extraordinary productions of short-horn bred, says: "A correspondent of the Farmer, from Frederick county, Va., lately proposed an inquiry as to milking properties of half bred short-horns, which to a certain extent I can satisfy. I have had a number of half bred heifers; some were kept for the use of the farm, and their milk used in the mass with that of other cows. The milk-maid always reported that the milk of these animals was much richer and more abundant than that of the native stock, on making her general comparisons; but being satisfied with a general opinion, and the striking external difference, no particular inquiry was made to ascertain specific values until last spring, when our convenience requiring it, we selected two young half bred cows, about five years old; their calves were taken from them when two months old, and being then milked separately, they yielded each at the rate of ten pounds of rich butter a week for two months, not exceeding half a pound over or under each week. The hot weather then came on, the pasture thinned, and they were advancing in calf; their milking proportionately decreased, and they were no longer separately kept. Besides the pasture, they had a daily allowance of a quart of corn meal each. Two of my neighbors had obtained half-bred heifers from me, and on making inquiry with them, they assure me, their animals, on a separate trial, had produced for some months last season, each upwards of ten pounds of butter per week. They are persons in whose statements I can place full confidence.

"In giving you the above facts, I may observe that the animals slaughtered" were the only ones I had for that purpose in each year, and were not selected as specimens; and as to the milkings, I give the general opinion, drawn from the source most to be relied on—I mean the milk-maid; and I have also given you specific trials to a certain extent, made by particular observation, in reference to our own convenience, but not with a view to furnish extraordinary samples.

"The whole of my experience on this subject goes to confirm an opinion I have on more than one occasion advanced—That the value of the improved short-horned stock will be best elicited, improved, and usefully extended, by crosses with our best native stock. A cross with any animal, not worse than our own, is an acknowledged improvement; and a cross from a very superior stock, must, in the nature of things, bring it to a proportionate advancement.

"A gentleman in Virginia is now making the experiment to which I allude, and which, in a general way, I have made to my own entire satisfaction. His accuracy of observation will ensure to us a result, in the course of two or three years, which I trust will end all doubts on this interesting subject."

Such reasonable facts as the preceding, coming from a source where prejudice and jealousy seem to be sunk in a spirit of liberality to the breeding interest, should be highly propitious to its progress, and very gratifying to all, who may derive a benefit if they will. It is still very desirable to ascertain, from unquestionable experiments, whether short-horn cows, in their various grades of blood, are, as a family of cattle, in dairy establishments superior to all others. It is proposed that fair experiments shall be made and reported to the American Farmer, as soon as convenient to those who have the stock; half a dozen cows in a place should form a satisfactory experiment, but the more the better. An extraordinary cow or two may be taken from almost any breed, and by extraordinary keep be brought to great perfection; but this would be like heaping masses of manure on a single acre of land, rich already, while there are hundreds of poor knolls almost unproductive around—with the exception that where only one cow is kept, she of course gets every thing. To the testimony of Mr. B. I would add, that one of their inherent qualities appears to be that of docility, a great advantage, especially where there are many kept—there is scarcely an exception of any resistance among my stock made to the milker. I shall endeavor, in due time, to report the progress made in this branch of improvement, the quantity and quality of milk and butter made from a dairy of short horns, and the circumstances attending it: but with deference to the opinion of others, I should conceive the quantity of milk to be of less importance than the quality, after obtaining at least three or four gallons generally from a set of cows.

In advertising again to the report of the committee, the calf called Henry Berry was almost unexceptionable when quite young, but in his progress through the winter inclined more to the appearance of a stock intended more peculiarly for the propagation of working cattle—and at the suggestion of a gentleman, (not a little shrewd in that way) who had seen the short horns in England, that a sixth month's calf called Noblester was more like that stock than any he had examined, Henry Berry was accordingly removed from the one to the other. The most superior work oxen in our country are raised from the Devon stock in the New England states, nor is the cross at all wanting in producing superior milk cattle. May it be said to the committee, that I will no longer, after their most flattering report, doubt the expediency, or

*The cow Ruby, 11 years old—net wt. 1,664 lbs.; inside fat 151 lbs.; hide 109; and young short-horn steers from 24 to upwards of 3 years old, weighed from 720 to 918 lbs. net. Very few of our native cattle, at double that age, can exceed their weight.

harbor a supposition, that it would be presumptuous in an individual, at this time of day, to attempt an improvement on the short-horns, especially as they relate to our particular interests? What Mr. Berry has said on the subject of fashion in breeding, should be particularly noted.

On the contrary, I shall renew my best exertions to adapt a race of cattle as nearly as possible to the particular soil and interests of our limestone valley, and to the general interest of our whole country—leaving it for others, better qualified, to model them in minute particulars, to the section of country they may inhabit; for it is surely incumbent on every individual in the line of his profession, not only to pursue it with industry for the support of his immediate family, but with a zealous spirit of investigation, in order to an increase of those facilities which knowledge and experience are constantly unfolding. The least intelligent member of a community may add something to the common stock of useful information, if he is but impressed with the duty of contributing his part, be it ever so little.

There cannot be a better evidence of the increasing taste and determination of our citizens to improve, than the circumstance of their giving a decided preference to breeding from a full-blooded short-horn, without even comparing or weighing the merits of crosses under the most propitious circumstances. I rejoice at it, plainly foreseeing that former prejudices will soon be converted into convictions as strong in their favor, which will finally settle down into a corrected judgment in favor of judicious improvements. And, although as a breeder, thinking I see my way clear in rearing a stock dependant only on the first cross, it is nevertheless recommended to introduce and propagate from the full blood, even though they should be inferior in size and beauty to those of the most successful breeders of limited crosses, and offer evidence as good as the following. In a letter just received from the Rev. John Kirkpatrick, who has lately returned from a journey to the north, indulging his zeal for improvement of stock in their examination when opportunity offered, he says: "But I must say, that in my whole route I met with no cattle or animal of the kind to compare with your Powel, or with a number of the half-bloods which I saw at your house." Those who imagine themselves in a way to improve even on the short horns, must patiently wait the progressive taste and judgment of farmers in relation to the various points which constitute fine animals of the cattle kind—the better informed and improved experience, to be learned from developments which are from time to time removing the veil of mystery which has been thrown around the subject by interested and prejudiced breeders.

To conclude this subject with a practical remark, Powel will return to the neighborhood of Winchester after harvest for a short time. In the spring, Powel, Jackson, and one of the best full-bloods to be selected from the north, will be arranged for the district of country surrounding Winchester.

Why are mealy potatoes more nutritious than those which are waxy?

Because of the greater quantity of starch which they contain. Thus, a microscope shows a potato to be almost entirely composed of cells, which are sometimes filled, and sometimes contain clusters of beautiful little oval grains. Now, these little grains remain unchanged in cold water, but when it is heated to about the degree that melts wax, they dissolve in it, and the whole becomes a jelly, and occupies a larger space than it did in the form of grains. When a potato is boiled, then each of the cells becomes full of jelly, and if there be not a great quantity of starch in the cells, it will not burst. But if the number of grains or their size be very great, the potato is broken on all sides by the expansion of the little masses of jelly, and mealliness is produced.

WHEAT TURNING TO CHEAT.

MR. SMITH: *Standardsville, Va. July 2d, 1832.*

As there has been much controversy in your paper, upon the subject of wheat turning to cheat, I have been particular in examining a very great many bunches of cheat, that I might afford some assistance to those who believe with me that wheat will turn to cheat. I have now in my possession a bunch of cheat with the seed grain (or husk) of wheat adhering to one of the main roots of the cheat. I have shown it to several practical farmers, to whose opinions every respect is due, and who agree that it ought to convince the most sceptical persons, Should you desire it, I may (should an opportunity offer) forward it to you.

Respectfully,

JOHN F. CONWAY.

[The above should have appeared sooner, but was mislaid. We shall be very glad to see the specimen of cheat with the husk of wheat adhering to it, and hope Mr. Conway will do us the favor of sending it to us. We also have seen many specimens of cheat with the shell or husk of the old seed adhering to them; but we never left them till we clearly identified them as the seed of cheat. The seed swells greatly, and this gives it very much the appearance of wheat.—*Ed. Am. Farmer*]

HORTICULTURE.

(For the American Farmer.)

LILIES.

Greatfield, N. Y., 7 mo. 12, 1832.

The Lilies constitute a splendid genus. Though some of the species are commonly cultivated in ornamental gardens, others are rare, and there are several which I have never seen.

The orange lily, sometimes called the fire lily, (*Lilium bulbiferum*) is one of our earliest. It continues long in flower; and its beauty would be more admired if it were less common, and less easily increased. The bulbiferous variety ought to be rejected on account of spreading through the garden. The flower of this lily is upright with unguiculate petals; but another lily of briefer date, which begins to bloom about the same time, has pendant and revolute flowers. Two of its varieties have been sold under the names of the red and the yellow pomponne (*Lilium pomponium*); but I strongly suspect that this is a misnomer; and that these, together with some others, sold as martagons, (*Lilium martagon*) are varieties of *Lilium pinnatifidum*, which has "leaves scattered, linear,—peduncles long,—flowers reflexed,—corolla revolute, papillose inside." With this specific character, five of my varieties agree; but none have "leaves linear, subulate;" or a "toothed corolla, warted on the inside," which are requisite in *Lilium pomponium*.

In the autumn of 1829, of a packet of bulbs just imported from Holland, I bought six martagons (so called.) only one of which proved to be a *Lilium martagon*. The character of this species is: "Leaves whorled, ovate, lanceolate, &c." and is therefore remarkably distinct from *Lilium pinnatifidum*.

In London's Encyclopedia of Plants, the flowers of *Lilium pinnatifidum* are marked "D. O." (dark or dull orange) which agrees well with my varieties, except "the yellow pomponne," none of which, not even the last, have clear colors, but dull approaching to lurid; and the scent of the flowers is strong and unpleasant.

Last year, the young stalk of my only *L. martagon* withered, and the bulb perished, leaving only a small offset; and I am told that they rarely succeed in this country. The hot sunshine seemed to injure mine.

Lilium philadelphicum grows naturally in dry soils, with erect flowers and unguiculate petals; but it requires shade, and generally on removal to a gar-

den, it loses part of its vigor. I have not seen more than three flowers on a stalk in its wild state; and after treating it with great care, I have not had more than two flowers on a stalk from the same plant, in cultivated ground.

In Loudon's Encyclopædia of Plants, the red lily of Louisiana, is given as a variety of this species, quoting as a synonym *Lilium andinum* of Ker. If this is the same as Nuttall's *L. andinum*, (*Lilium umbellatum* of Pursh,) there is probably an error in that arrangement. The circumstance of *L. andinum* (N.) being found in moist soils near streams, rather indicates a difference of organic structure from *L. philadelphicum*; and the flowers, (according to the discoverer) are commonly in fives; but independent of this, its leaves are scattered, except the floral leaves, which are verticillate. It must therefore be a distinct species.

This lily bears a high price, several dollars being demanded for a single bulb. I ordered one, but on flowering it proved to be *Lilium concolor* from China. The flower is upright, though the petals are not unguiculate, of a fine bright red. My plant was very small, the stalk being only ten inches high.—From *L. andinum* (N.) it may be easily distinguished by its leaves, none of which are verticillate,—and by its flowers of unspotted red.

Of *Lilium canadense* there are three well marked varieties:

1. The bronze yellow. This appears to be the common kind in the maritime parts of the United States, and that from which Professor Torrey drew his description of the species: "Petals turned outward above the middle, but scarcely revolute." The peduncles droop, and the flowers hang lower than the whorl; but in the other varieties, owing to more rigid peduncles, the flowers are above the level of the whorl. The difference of aspect is striking. I have one plant now in bloom, with twenty-one flowers on a stalk.

2. The common red—a very distinct variety. The petals are revolute, sometimes bending over so as to touch the bell of the flower, even before they wither. I have seen one stalk with twenty-eight flowers.—Like the other varieties, it flourishes in gardens; but I have never had one in common garden soils, to produce more than half that number of flowers. One of my friends, in very rich ground however, has had twenty-six flowers on a stalk this season.

3. The Niagara red—the most delicate variety.—In dry garden soil, it attains but little more than half the height of the other varieties. The flowers are a finer red, and the spots are smaller, and more numerous. The leaves are commonly boat shaped, and pointing upwards. I found it on the banks of a small stream in Upper Canada.

In *L. canadense*, a bract accompanies every peduncle,—sometimes at the base, but more frequently elevated near the flower. In the two figures given in Loudon, this characteristic is omitted, unless it be found among the floral leaves.

Lilium longiflorum has been introduced within a few years from China. Mine has flowered this season for the first time. The stalk is fourteen inches high, leaning almost forty-five degrees apparently from the weight of the flower, which was six inches long, (outer petals seven,) and the diameter at the mouth four inches. It is moderately fragrant.

To this species, *Lilium japonicum* is nearly allied; and between them, botanists find but few distinctive characters: the latter is bell-shaped, and the former tubular bell-shaped. To this difference, they add as a characteristic of *L. japonicum* "flowers cernuous," but mine are not more so than those of *L. longiflorum*.

The florist however, will observe, that the stalks of *L. japonicum* are erect; and that the anthers are a dark brown. The stalks of mine are twenty two inches high, and the flower four and a half inches long.

Both of these species remained in a covered border; but the ground was more frozen during the last severe winter than that in the open garden which was covered with snow. I consider both hardy if planted at the depth of five or six inches. A sod, branches of evergreens, or a mound of light rich earth, however, would make assurance doubly sure.

Perhaps the two finest species of this genus, are the old fragrant white (*Lilium candidum*) and the Chinese tiger lily (*Lilium tigrinum*.) The latter is now generally found in ornamental gardens; and it is the latest of all our lilies except *Lilium superbum*.

L. superbum is a native of wet or marshy soils, and is not well adapted to common gardens. I have three plants, only one of which flowered last season, although they stood in a sunken border, and heavy rains were unusually frequent. In autumn I removed one of these to a border containing much vegetable earth, and sheltered from the noon-tide sun.—During the present drought it has been slightly watered in the evenings. The leaves are of a healthy green, while those in the open border are of a sickly white. I ascribe the deteriorated appearance of the latter, however, to a deficiency of water.

Lilium chalcidonicum is also late, with fine red or scarlet unspotted flowers, which are pendant with revolute petals.

Besides those mentioned, the following species are enumerated in Loudon, none of which, as far as I know, have been introduced into this district:

	Feet high.
<i>Lilium carolinianum</i> , flowers orange color	2
—dauricum (kauskatsense?) light orange	2
—catesbaei orange	1
—croceum yellow	3
—spectabile orange	3
—pomponum scarlet	2
—monadelphum yellow	2
—pumillum scarlet	1

D. T.

CULTURE OF SILK.

[We are much pleased with the following letter, and request an attentive perusal of it. For ourselves, we long since arrived at the same conclusion with Mr. Barclay—that the culture of silk may be made a very lucrative business in this country. His remarks relative to his success in reeling will not escape attention.]

In reply to Mr. Barclay's query as to the *Morus multicaulis*, we have to remark, that this species of mulberry will not answer for hedges; its wood is too soft, and all kinds of cattle too fond of it. Its seed will vegetate, if sown immediately after maturity, as we have a few plants now growing from seed that grew on our own trees this summer; and the trees that bore this seed were only one year old.—Our opinion is, that it will produce seed as abundantly as the white mulberry, when the trees are of proper age, and that the seed will vegetate as well as that of the white.

We are in possession of no facts that recommend the rearing of several crops of worms in one summer—the experiment of Mr. Barclay himself is the most flattering of any we have become acquainted with. We have never been able to hatch the worms with sufficient regularity in a second crop.—*Ed. A. Far.*

Mr. SMITH: Monticello, July 10th, 1832.

Dear Sir,—Prompted by a desire to contribute a mite, however small, to the furtherance of the interests of the "American Farmer," and incited by your request to be informed of the success of my attempt at the culture of silk, I am induced to send you a sketch of the result of my experiments in that interesting branch of industry.

The half ounce of eggs obtained of you last fall, together with a few thousand more, amounting in all to about thirty thousand, were brought from the cel-

lar, and exposed to the ordinary temperature of a room, on the 3d of May: no recourse was had to artificial heat, and as the weather was unusually cold they did not commence hatching until the 16th, and terminated on the 20th. They were fed on the white mulberry leaf, and reared pretty much in the usual way on the American System: a few commenced spinning their cocoons in 29 days, though the main crop were some days later. The weather was unusually inclement during the whole period of their existence, and it was more than once predicted by some of the "knowing ones," that I would not make a p and of cocoons; and the long continued and repeated rains threatened to verify their forebodings; but in despite of the many unfavorable circumstances, the worms thrived well, until the occurrence of a very severe hail-storm, when the temperature of the atmosphere underwent a very great and sudden change, which killed some, diseased many, and retarded the progress of all; many, which were then engaged in spinning, languished some days, and either died or spun imperfect cocoons. But notwithstanding all these untoward circumstances, my expectations have been more than realized. A few days after gathering the cocoons, six pounds were indiscriminately taken and weighed, and found to contain an average of 240 cocoons to the pound. A selection was then made of the largest for seed cocoons, and 198 ascertained to weigh a pound, (of these about a dozen were double.) Some of the very smallest were then selected, consisting principally of white cocoons, and 360 were required to weigh a pound. A few hundred cocoons were of a beautiful pearl white, and the remainder were of different shades of yellow, from deep orange to pale straw color.

I have thus presented you with a brief but faithful outline of my attempt in the culture of silk, from which you can deduce your own conclusions. My own decided impression is, that it is one of the most lucrative as well as agreeable pursuits we can engage in. I have encountered no difficulty in the business, that of reeling, which I find to be more ingenious than real, and is by no means insuperable.—By the exercise of patience and perseverance, I have acquired a tolerable proficiency in the much dreaded task of reeling, though the reel on which I operated, I conceive I have very much simplified and improved. The ingenuity of some of our citizens has already brought the light of science to bear on this art, hitherto much neglected, and confined to the lower and less intelligent orders of society.

Professor Emmet, of the University of Virginia, has invented a very useful and ingenious machine, which I saw in successful operation a few days since, by means of which the operations of reeling, doubling and twisting, formerly requiring several distinct operations, can be simultaneously and expeditiously performed to any desirable degree. Many of your readers would be gratified with a more thorough account than has hitherto been given of the *Morus multicaulis*. Does it answer for hedging? Will its seed produced in this country, vegetate? &c. &c. If you are in possession of any facts relative to the possibility of rearing several successive crops of silk worms during the season, their communication to the public would be an acceptable service. I have already reared two crops this season, and may say I have the third in progress now, and as soon as it is finished intend trying a fourth. I have tried, with some success, the project of rearing the worms in open exposure, and have at this time nearly a thousand on a white mulberry tree, with no other protection than catgut to defend them from the ravages of birds. The worms are now in the 10th day of their age, and are in very fine condition; (some exposed last April withstood the greatest vicissitudes of weather with impunity.) I confined 1000 worms exclusively to a diet of black mulberry leaves, and can attest the fact of their capacity to yield large cocoons, though the fibre seems to be coarser than the product of the white mul-

berry. I also tried the paper mulberry, (Otaheite) but contrary to the experience of Mons. Bonafous, found it barely adequate to the support of life, unless alternated with the white and black, when the worms would be enabled to spin a very dwarfish cocoon.

My near approach to the end of my sheet compels me reluctantly to conclude, which I will do, by observing that my experience has gained many advocates, and made some converts. It has imparted a new impulse, and many have engaged in the culture of silk with a zeal which warrants the most confident hopes of success; and a fair investigation of the subject justifies the belief that we will soon have a permanent and valuable staple, and that America is destined to become one of the greatest silk growing countries in the world. Respectfully, &c. your friend,
J. T. BARCLAY.

(From the New York Evening Post.)

NEW YORK HORTICULTURAL SOCIETY.

Special Meeting.—Tuesday, June 19th—Jacob Lorillard, Esq. President, in the Chair.—A letter from Sir Henry Wilcock, of London, was read. This was accompanied by a box of seeds brought by him from Persia and Turkey. They are described as the seeds of trees, shrubs and plants, suited to the climate of the United States, many of them having been collected in the mountainous parts of Persia, where they were covered with snow four months of the year, and all of them are deemed *hardy*. The following are described:

The Paper Almond, or Badaam Kaghizee, of Persia.

The Laurel of Trebizond—grows to the size of a forest tree, and its fruit edible.

The Senjeed, a hardy tree, grows to the size of the willow, and in similar soil. Its flowers are so odoriferous that their fragrance may be observed the distance of a mile; and its fruit is also eatable.

The Persian Rose Tree, or Nasteran, grows to the height of 20 feet, its top depending gracefully like that of the weeping willow; its flowers very odoriferous, of a pale amber color, and the branches entirely covered with the blossoms.

Fourteen varieties of ornamental and aromatic plants gathered on the mountains near Tabriz, not named, and most of them new to English Botanists.

A species of Broom, the Persian Pea "Nakhlood," Melons, Gourds, Pumpkins, &c.

Nine species of hardy trees and ornamental shrubs growing near Constantinople, all of which were distributed among the members present.

In addition to the above, Sir Henry has sent a packet containing seed of the celebrated *Sheraz Tobacco*, so celebrated in the markets of the east for its delicate perfume.

RURAL ECONOMY.

(From the Library of Useful Knowledge.)

THE MOUNTAIN SHEPHERD'S MANUAL.

PART IV.

MANAGEMENT OF SHEEP.

Shelter.

Shelter is the first thing to be attended to in the management of sheep. While every good shepherd is decidedly hostile to their being confined, or to their being forced into shelter, whether they wish for it or not, it cannot be too strongly recommended to all sheep farmers, to put the means of avoiding the severity of stormy weather within the reach of their flocks at all times. Close confinement injures the health of all animals; and is hurtful in an especial manner to sheep, which, by nature, are of a roving disposition, and exceedingly fond of liberty. It is certainly a mistaken notion that fine woolled sheep are more tender, and more liable to be injured by cold, than those which carry coarse fleeces; and that they

must, during the greatest part of the year, be kept in cots, as is practised on the continent. The wool of the fine breeds grows in a manner which renders it more effectual in resisting the rigors of winter, than that of the long coarse kinds.

Merino sheep, which have been reckoned the most delicate, have been found capable of bearing very great degrees of cold, without being injured in the slightest degree.—Cold, therefore, is not by any means an object of dread to the breeder of any kind of sheep, except during the lambing season, when sudden and severe cold, and chilling rains, are with reason to be feared by every stockmaster, as they are fatal to newly dropt lambs of every breed.

Drifting snow, excessive rain, and great heat, are the enemies which, in our climate, chiefly annoy our flocks.

DRIFTING SNOW.

Natural shelter is seldom to be found in a mountainous country, so convenient as to be proof against sudden storms of snow. Recourse must therefore be had to art. There cannot be a better method of enabling sheep to escape from drifting snow than such inclosures as are mentioned by Mr. Hogg. Circular inclosures, surrounded by an earthen wall, will be fully as effectual as those constructed of stones, and will in most places be more economical, both in the original cost, and subsequent repairs. The spaces inclosed should be on dry ground, and of moderate size; and the more numerous the better. The base of the walls should be four feet thick, and the top two feet. The height should not be less than six feet. Two or three openings should be left towards the south; and a drain, so constructed as to take off the wetness of the ground, rain water, and that from melted snow, should be dug round the outside, communicating by holes in the wall with the inside of the inclosure.—After having been once or twice driven into these inclosures or rings, the sheep will of their own accord draw towards them on the approach of snow.* The shepherd will always find his flock assembled in the rings during snow, and he will not often have to risk his life by searching for lost sheep among wreaths.—Clumps of Scotch firs have been found of great use on some farms; and should be planted wherever they can be easily protected when young; not only for shelter, but for the sake of the thinnings and branches, which are wholesome food for sheep in stormy weather.

In gentlemen's parks, and on low grounds, where attendance can be constantly afforded, there is less occasion for shelter. Clumps of trees, especially of spruce fir, the foliage of which is closer and more ornamental than that of the Scotch pine, will however be found extremely useful.

RAIN.

As it is impossible to shelter even small flocks from rain, it is a fortunate circumstance that sheep are not very liable to suffer from it. During summer there is no danger to be apprehended from long continued rain drenching the fleece. But should this happen during winter, weak sheep will most probably suffer greatly. Attention to the health and comfort of sheep at other times, by bringing them to face the severity of winter in a strong habit of body, will be found to be the best method of defending them from rain. Of smearing or salving we shall presently speak.

HEAT.—FLIES.

In mountainous districts, sheep have it in their power to remove from glens and hollows, where the rays of the sun frequently become oppressive.—But on low grounds they are too often left exposed, without having access to a shady place, to the scorching heat of summer, and to the torments inflicted by myriads of flies. The shades of trees, cots, and walls, are sufficient to enable sheep to avoid heat; but their

* Walls are raised in some places in the form of a cross, or of the letter S.

enemies will follow them, and continue their attacks. Some method of keeping off flies should therefore be adopted; or at any rate, of destroying their eggs, which they deposit about the roots of the horns, and other parts of the head, and about the tail. The following ointment being rubbed about the root of the horns and tail, will be found to be of great use.

Strong mercurial ointment,	1 part.
Rosin,	1 part.
Hog's lard,	3 parts.

Melt the hog's lard in a convenient vessel, and add the rosin. When these ingredients are well incorporated add the ointment, and stir the whole well until it becomes cold, to prevent the mercury from sinking. The rosin is intended to give some degree of adhesiveness to the composition. The smallest particle of mercury is fatal to an insect. A composition for defending the bodies of sheep will be found under the article *Shearing*. Flies seldom become troublesome till after the time of taking off the fleece. But when sheep appear to be annoyed before that time, the ointment should be applied without delay to the head and tail, and well rubbed on. The proportion of mercury is too small to have any effect on the animal, but is quite sufficient to make flies change their scene of attack, at any rate to destroy their eggs. Rubbing the head and tail with a composition of one pint of tar and four of train oil, has been found to answer the purpose well.

FOOD.

Variety, or frequent changes, in the nature of food, tend to derange the uniform action of the bowels, and to bring on diseases which often prove fatal. During summer and winter, sheep are commonly healthy, when they are not absolutely starved. It is chiefly in spring and autumn when they show symptoms of bad health. Sudden changes in the quality of their food are the most probable causes of the general unhealthiness experienced at these seasons of the year. Such alterations are not more injurious than quick transitions from plenty to scarcity, and from scarcity to plenty. When an animal has been highly fed, and accustomed for a length of time to eat regularly, any sudden alteration in its habits soon occasions disease. On the other hand, nothing is more dangerous to an animal which has been starving, than placing it all at once in the midst of plenty.

Where grass is what is usually called artificial, and consequently as uniform as it is possible for pasture to be, few diseased sheep will ever be found.—On meadows and hills, where some parts are moist, and others dry, and where the soil is of different kinds, the quality of the pasture is often found to vary much. Here the only way to avoid risk is to adopt the plan of many skillful shepherds, and to allot different tracts of country to different parts of the flock, and to reserve some districts for shifting; for a change of food is well known to be of the greatest importance, the plants in one district of a farm being succulent, while those on another have ceased to grow; and this holds on different parts of the same tract of country, and varies with elevation. There can be no difficulty in dividing a farm in such a way, that a proper succession of food may always be provided. Sheep cannot endure frequent removals, but are strongly attached to the place of their nativity.

It has been fully ascertained that wet grounds, where water sometimes stagnates, are unfit for sheep pasture, inasmuch that the complicated and fatal disease, called rot, always attacks sheep which feed on them. Wet peaty ground is not so dangerous, nor is there much risk when sheep go on land over which water trickles constantly. But lands which have been flooded are sometimes unsafe until they become perfectly dry. In the Highlands of Scotland there are vast ranges of hills, which, even during the driest seasons, are continually moist; yet they do not appear to be injurious to sheep by bringing on the rot. On these the water is in continual motion, and never stagnates.

The neighborhood of stinking pools of water, and of grounds on which rank grasses grow during the evaporation of stagnant water, should always be avoided. Sheep are fully as liable to the rot in such situations, as the human species is to ague, and other diseases resembling incipient rot.

The greatest difficulty in the management of sheep occurs at the periods when the seasons change.—Then it becomes necessary on hill farms, not only to diminish the quantity of food, but to give it of a different quality. On the mountains of Scotland, the vegetation of the grasses and heath usually ceases about the end of October. When sudden frosts come on before the vegetation of the grasses has stopped, the leaves are affected, so that when thaw commences, they become flaccid, and rot. When introduced in that state into the stomach of a sheep, or of any other ruminating animal, they are likely to prove injurious. When sheep are forced by a sudden fall of snow to relinquish their ordinary succulent food, the change can hardly fail to hurt their health. Their stomachs and bowels, having been accustomed to the gentle action required for digesting succulent food, are not in a condition to manage what is dry. The slow digestion of dry food makes an alteration in the quantity of fluids secreted, and the whole system is apt to be deranged. The grand object of a shepherd, therefore, ought to be to make the change of food as gradual as possible. He must not be tempted by fine open weather to delay accustoming his flock to an alteration in diet. Winter may come on suddenly, and before the shepherd be aware of them, bring difficulties which he may not be able to overcome. When a continuation of fresh grass cannot be afforded, a wise and skilful shepherd will begin, about the end of October, to move his sheep about, taking them sometimes to dry, healthy grounds, and sometimes to places where the pasture resembles that destined for winter use. The movements should be continued until the usual time for putting the sheep on their wintering ground. The same caution ought to be observed in spring. During winter the stomachs of the sheep will have acquired a stronger action in digesting dry and hard food. If, in this state, they be suddenly filled with young succulent grass, purging will be brought on, and probably more fatal diseases than diarrhoea will attack the flock. In situations where turnips and hay can be raised in sufficient quantities, many dangers and difficulties may be avoided by a proper alternation of these as winter food.

The winter management of a breeding stock, and of a stock for the butcher, are very different things; and yet we see many people treating both in the same way. While sheep, destined for the knife, are kept constantly folded on turnip fields, it would be folly to risk great ewes in the same manner. In such a situation great ewes are very liable to miscarry, and from being obliged to lie dirty and wet, often become unhealthy. In general, the animals destined to pass the winter on turnips, are compelled to eat up every morsel, even unwholesome, dirty, and rotten husks, which they had before left in disgust. But as butchers have no objection to take sheep a little rotten, or otherwise diseased, while they are rather disposed to be fat, this, in the opinion of many, may be of no consequence. But such treatment is highly improper for a breeding stock, as well as folding sheep during the night, without giving them food. They eat almost as much during the night as during the day, and seldom go regularly to rest. They lie down to chew the cud, and to rest during the day, as well as the night time. They should not be allowed to be longer on the turnip field than four or five hours, and should then be driven to the hill, or pasture fields, and brought back to the turnips in the morning.

SMEARING OR SALVING.

Shepherds vary in their answers when asked why they smear their sheep. Some say that it is intended to prevent the scab, some to cure it; others say it is for

the purpose of keeping off rain, and some assert that they do it merely to soften the wool. Smearing with a proper composition is certainly useful both to the fleece and the animal which carries it, and answers all the above purpose, and destroys vermin. It has very little effect on coarse fleeces; but as they are long and do not curl so much as the short sheep's wool, smearing may be useful in defending the animals from rain. It is for this purpose that black faced hogs are smeared. Some breeds of sheep yield a great deal of oily matter, which keeps the wool always soft. On such sheep, too, a larger quantity of the substance, called yolk, is found than on the coarser breeds.

Nothing is so hurtful to wool as tar, in so far as the interests of the manufacturer are concerned, and nothing is more apt to injure sheep, as it is of a very irritating nature, when *injudiciously* employed. It is to be regretted that the interests of the wool-grower and of the manufacturer are not considered the same. The care which attentive shepherds bestow on wool is amply repaid by the health of their sheep, and the price they receive. When used with moderation, tar is a very useful ingredient in the composition for salving. When laid on in a large proportion, it quits the grease with which it is mixed, and accumulates on the sides and bellies of the sheep. Tar is always so full of impurities, that it spoils the color of the wool, and renders scouring a difficult, tedious, and expensive operation, and after all it leaves a stain. It is, therefore, the interest of the grower to seek for a composition into which tar enters in a small proportion, which will have all the effect he desires in smearing; and from its being more easily washed out than the common composition, will enable the manufacturer to afford a better price for the wool on which it has been laid.

Of late several compositions have been proposed and extensively tried, in which the spirit of tar has been substituted for tar itself. This has, in some cases, been complained of as too irritating, and there is not a doubt that a too free use of spirit of tar is injurious, and even fatal. Some of the salves, while they prove to be perfectly well adapted to flocks that are clean, have been found ineffectual either in curing or in warding off the scab—a disease which the common salve, made of tar and grease, seems effectually to resist. When a flock is perfectly clean, olive oil has been found to be the best substance for softening the fleece and warding off rain and snow. For clean sheep Taylor's salve is also suitable, though some English staplers have condemned it. If a tar salve were made so as to be free from the impurities of the tar, it might probably answer every purpose. The ordinary proportion of one cwt. of grease to a barrel of tar might be increased to one and a half cwt. and when melted together the impurities of the tar might be suffered to subside and be separated. In this way the tar might not leave a stain upon the wool when scoured. Olive oil seems to impregnate the wool, or to adhere to it more firmly than any other kind of greasy matter; and it has been successfully employed by Mr. Sellar of Morvich, a first-rate store farmer in Sutherlandshire, an account of whose management of his farm was published in the 15th Number of this series.

WASHING.

In order to put wool into a more marketable condition, if it is sometimes washed on the back of the sheep before it is shorn. The animals are made to swim once or twice across a river or pond. This practice does not appear to injure sheep of any kind, although danger might be apprehended from plunging new-ewes into cold water. Washing is not so much attended to in Scotland, except in some of the southern parts, as it ought to be. As the fleeces of fine-wooled sheep are not easily penetrated by water, so they take a long time to dry. Washing the wool on their backs may therefore be improper in some cases.

(To be continued.)

MISCELLANEOUS.

DESTROYING INSECTS.

Nature has provided many of the insect tribes with the faculties of withstanding our most severe winters and yet reviving with the first warmth of summer. Some dive deep in the earth, thereby escaping the effects of frost, while others, more averse to dampness, secrete themselves in the clefts of the bark of trees, or encase themselves in gummy covering, from which they emerge and commence their works of destruction with the first dawn of vegetation. By examining the bark and buds of fruit trees at this season, thousands of these little destructive insects may be found enveloped in cases which seem to defy the inclemency of the season, but which may be destroyed by artificial means more readily than after they are thrown into life. Washing trees with soap suds or rubbing them over with soft soap, is one of the most effectual ways of destroying such insects as remain upon the trees during the winter; at the same time it has a good effect upon the trees, as by being washed to the ground by the rains, it answers an excellent purpose as manure. Some prefer mixing lime with soft soap, and applying it with a brush in the form of a white wash, which remains long upon the tree, and is an excellent application; and where the color is objected to, a small quantity of lambblack may be added, which will give it a grey appearance. We strongly urge our horticulturists to make trial of either the above applications—they will find it much to their advantage. During the above operation, the small limbs of apple trees should be loosed over, and the eggs of *bag worms* taken off. They are readily distinguished as a projecting ring round small limbs, about one inch long, full of small cells like a honey-comb, each cell containing a worm in its embryo state; these also hatch as soon as the leaves are large enough for them to feed upon, but can be destroyed at this season with certainty and very little trouble. Where trees are washed with soap or lime in the spring, insects that pass the winter in the earth, will not climb them as readily as those which have not been washed, which alone should be a sufficient inducement for every good farmer, who has any taste for fruit, to make the application before his enemies can escape by flight.

Nature of earths with reference to the growth of plants.—The report of M. M. Thenard and Sylvester, on a memoir upon this interesting subject by M. J. St. Hilaire, is to the following purport. The author remarks that most persons who have analyzed arable earths, have taken exclusively such as have been cultivated, the original constitution of which has been more or less altered. He believes the various kinds, of earths in their first state, have peculiar properties of nourishing particular plants; and that the exact knowledge of these peculiarities would enable cultivators to put those seeds in the ground, which are most suited to it. From various analyses, he draws the following inferences:—1st, that all earths are composed of silica, alumina, lime, magnesia, &c. in different proportions, together with a vegeto-animal matter, which is more abundant as the earth is more fitted for the nourishment of plants. 2dly, that plants placed in earths, of which the constituent parts have an analogy with the particular nature of the plants, do not exhaust the soil. 3dly, that a series of observations on the different species, genera and families, which grow naturally and in great numbers, perpetuating themselves on certain soils, with the analysis of these soils, would be of great utility in agriculture.—*Rev. Enay.*

Why should old pearl and Scotch barley be washed before used?

Because by long keeping it becomes mesly on the surface, and the meal is generally musty and sour.

Prices Current in New York, July 28.

Beeswax, yellow 18 a 20. Cotton, New Orleans. 10½ a 13; Upland, 8½ a 11; Alabama, 9 a 11½. Cotton Ginning, Hemp, per 14½ 17; Flax 13 a 14½; Flax, American, 7 a 8. Flaxseed, 7 bush. clean —; rough —; Flour, N. York, hbl. 5.75 a —; Canal, 6.25 a 6.37; Balt. 11wd-st. 6.75 a —; Rhd. city mills — a —; country, 6.00 a —; Alexandria, 6.37 a 6.75; Fredericksburg — a —; Peters, 5.81 a —; Rye Flour, 4.37 a —; Indian Meal, per hbl. 3.37 a —; per hbl. 16.00 a —; Grain, Wheat, N. York, — a —; Vir. — a —; Rye, North, 80 a 82; Corn, Vel. Nor. — a 70; Barley — a —; Oats, Sth. and North, 44 a 53; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; Cargues, Beef, mcs 9.50 a 10.75; prime 5.37 a 6.00 corn — a —; Lard, 7½ a 8½; Pork, mess, hbl. 12.75 a 14.00; prime 10.25 a 10.81.

JEFFERSON COLLEGE LANDS FOR SALE.

The Trustees of Jefferson College, in the state of Mississippi, are authorized by an act of Congress approved on the 20th April, 1832, to sell and transfer for the right of locating about twenty-three thousand acres of land, to be located on any of the lands of the United States, in the state of Mississippi. The selections may be made either before or after the said lands have been offered at public sale, to be taken in tracts, not less in quantity than two sections, containing about 1280 acres more or less, but which may be comprised in two sections, four half sections, eight quarter sections, or sixteen half-quarter sections, and may be made to assume such form as may best suit the views or interests of the purchaser, conforming however to the surveys of the United States, the connection being preserved between the different subdivisions by a contact one with the other at the sides or ends of such subdivisions. Those who are desirous of making investments in lands, or of emigrating to a new and fertile country, will find strong inducements to do so, in the facilities which the Trustees now hold out to them of acquiring some of the most valuable lands in the state. The wide range of selection, limited only by the boundaries of the state, and comprising of course a large portion of the lands recently acquired of the Chocwats, affords by the privileges conferred in the law, the opportunity of appropriating the most eligible and advantageous situations in the Country, in anticipation of the competition which must ensue, when those lands are brought into market.

Proposals will be received by the undersigned, for the purchase of this privilege, either in whole or in part, until the 3d day of November next.

All communications on the subject, should be post paid, and addressed to the subscriber at Washington, Mississippi.

B. L. C. WAILES,
June 30, 1832. Agent of Jefferson College.

VALUABLE BLOOD STOCK FOR SALE.

The subscriber will sell the following stock, viz: One STALLION, seven years old last spring, 15 hands and 2½ inches high—dark bay, with black mane, legs and tail—sire old Virginian, and dam by Sir Robin, (he by the imported Robin Redbreast.)

Also, a STALLION of the same age, and 15 hands 3 inches high, a blood bay, with black mane, legs and tail—also got by Virginian, and dam by the imported Dion. A colt of the get of each of the above, out of thoroughbred mares, and of general appearance calculated to recommend them as breeders, will accompany each—price \$2,000 each Stallion.

Also, one FILLY, 2 years old last spring, by the celebrated old Sir Archy—dam by Florizel out of a citizen mare—now 15 hands high—form and appearance inducing high expectations as a racer—color sorrel, with handsome star—forehand not surpassed by her renowned sire; other points in good form—price \$500.

Also, one BROOD MARE, 7 years old, old of Paeolet—dam a Dragon mare—brown sorrel color, 15 hands 3 inches high, and good appearance—price \$300.

Pedigrees in full (being deemed too lengthy for insertion) can be elicited by private communication; the subscriber residing near the Red House Post-office, Caswell county, North Carolina.

August 3.

R. I. SMITH.

A JACK AND JENNET FOR SALE.

A very fine young JACK, got by the fine Mediterranean Jack, Don Carlos, and now between four and five years old, is offered for sale. Price \$250.

Also, a very fine and heavily formed JENNET, full sister to the above Jack, a little upwards of two years old, 3 feet 7 inches in height, very docile. Price \$50.

The above animals will be sold together or separately, if immediate application be made to

I. L. HITCHCOCK,
August 3. Office Am. Farmer.

IMPROVED MILK CATTLE WANTED.

A young Bull, not vicious; and a few Heifers, or Cows, of the Improved Shorthorn Durham, of pure blood; or cross on the North Devon, or Alderney stock, of pure blood, may find a purchaser at fair prices, if their owners will direct a line to the post-master, at Tye River Mills, Nelson County, Virginia, giving the pedigree, size, color, age, capacity for milk and price. It is for the quantity and quality of their milk that they are sought; and it will be no objection if they are of moderate size only. It is all important that they be descended from Cows that give quantities of rich milk. Cows in calf by an improved Shorthorn Durham Bull, would be preferred.

31 July 27.

ORCHARD GRASS SEED WANTED.

The subscriber wishes to purchase a few hundred bushels of PRIME ORCHARD GRASS SEED, that is clear from noxious seeds, for which cash will be given.

J. S. EASTMAN,
Pratt street, near Hanover.

Who has in store RUTA BAGA and TURNIP SEEDS, and a general assortment of GARDEN SEEDS, thirty-four pounds EARLY YORK CABBAGE SEED, just received from London.

Also, his general assortment of AGRICULTURAL IMPLEMENTS, such as Wheat Fans, Corn and Tobacco Cultivators, Corn Shellers, Harrows, his Patent Cylindrical Straw Cutters, and common Dutch Cutting Boxes, &c. &c. Wrought and Cast Share PLOUGHS, of all sizes, from a small six inch Seed Plough, to the largest Three Horse Plough, all of which are made of the best materials and warranted, and with his very reduced prices, he hopes to merit a liberal patronage.

J. S. E.

CORN CULTIVATORS, HARVEST TOOLS, &c.

The subscribers have prepared a good stock of CORN CULTIVATORS, both wrought and cast times; GRAIN CRADLES, with best quality warranted Seythes attached; GRASS SCYTHES and SNEADS ready hung or separate; Steel Hay, Grain, Manure Forks and improved Wheat Fans. They are also now manufacturing and preparing to furnish Lane's Patent THRASHING MACHINE at \$75. Horse Powers \$75, which, together with their usual stock of Ploughs and other Agricultural Implements, are offered for sale on accommodating terms.

Also a supply of SWEET POTATO ROOTS, for planting.

SINCLAIR & MOORE,
June 1. Grant street, near Pratt street wharf.

AGENTS FOR THE AMERICAN FARMER.

The following persons are authorized to act as Agents for the American Farmer in their several places of residence:

Boston, John B. Russell, N. E. Farmer Office.
New-York, J. H. Gourlie, at the Post Office.
Philadelphia, D. S. C. Landreth, Chestnut street.
Washington, D. C. P. Thompson.
Washington, D. C. Cooke & Co.
Fredericksburg, Va. Wm. F. Gray, Post Master.
Petersburg, Va. Thomas Coleman.
Raleigh, N. C. Joseph Gates & Son.
Candlen, S. C. P. Thornton, Post Master.
New Orleans, Wm. McKim.
Nashville, Ten. Kirchbaum & Norrell.
Natchez, Miss. Frederick Staunton.
Port Gibson, Miss. Passmore Hoopes.
Salem, N. J. H. H. Elwell.
General Agent for the State of Maryland, T. B. Brean.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—Our quotations of City Mills flour is for fresh ground from new wheat, which sells readily at our rates. In Howard street \$5 was paid from wagons yesterday; but little new flour yet in market. Corn has again advanced in consequence of the scarcity. Wheat remains as before.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 8.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a —.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 244 hds. Md.; 135 hds. Ohio; and 2 hds. Ken.—total 381 hds.

FLOUR.—best white wheat family, \$7.25 a 7.50; super Howard-street, 6.25 a 6.31; city mills, 6.37 a 6.50; Susq. — a —; CORN MEAL bbl. 3.50; GRAIN, best red wheat, \$1.15 a 1.20; white do 1.25 a 1.30; Susq. — CORN, white, 68 a —, yellow 70 a —; Rye, 60 a 62 — OATS, 35 a 38 — BEANS, 75 a 80 — PEAS, 65 a 70 — CLOVER-SEED — a — TIMOTHY — a — ORCHARD GRASS — a — Tall Meadow Oat Grass — a — Herd's, 75 a 87½ — Lucerne — a 37½ lb. — BALEY, FLAX-SEED 1.50 a 1.62 — COTTON, Va. 80½ — Lou. 9 a 13 — Alab. 8 a 11½ — Tenn. 8 a —; N. Car. 8 a 10 — Upland 8 a 11 — WHISKY, hds. 1st p. 51½ a 32; in bbls. 33½ a 34 — WOOL, Washed, Prime or Saxony Fleeced 50 a 60; American Full Blood, 45 a 50; three quarters do. 40 a 45; half do. 35 a 40; quarter do. 30 a 35; common 25 a 30. Unwashed, Prime or Saxony Fleeced, 50 a 35; American Full Blood, 27 a 30; three quarters do. 25 a 27; half do. 22 a 25; quarter do. 20 a 22; common, 17 a 20 HEMP, Russia, ton, \$20 a —; Country, dew-rotted — a 7c. lb. water-rotted, 7a 8c. — FEATHERS, 36 a 37; Plaster Paris, per ton, 4.25 a 4.37½, ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 72.50 a 80.00.—PRIME Beef on the hoof, 5.00 a 5.75.—Oak wood, 3.00 a 3.25 — Hickory, 4.50 a —.

CONTENTS OF THIS NUMBER.

Editorial: Notices of the Seeds sent to the Editor by Philo White, Esq.; Wool, Frederick Sheep; Persian Tobacco—Supply of Water, Inquiry—Obituary Notice of Elizabeth Smith, consort of G. B. Smith—Account of an Exhibition of Frederick Shorthorn Cattle, the Report of the Committee appointed to superintend the weighing, and Remarks by R. K. Meade on the Improvement of Sheep and Wool—Why Mealy Potatoes are more Nutritious than those which are Waxey—Letter from John F. Conway, on Wheat turning to Cheat—Description of some of the most Splendid Varieties of Lilies—Letter from J. T. Barclay on the Culture of Silk, with an Account of several most successful Experiments—Extracts from the Minutes of the New York Horticultural Society—The Mountain Shepherd's Manual, part iv; Management of Sheep; Shelter, Drifting Snow, Rain, Heat, Flies, Food, Washing—Destroying Insects—Chemical Properties of Earths—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, basement of Barnum's City hotel,) by I. IRVINE HITCHCOCK, on the following

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscribers are in all cases charged by the year, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail loss in the transportation of both the paper, and of bank notes in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and others containing money.

On All postmasters are requested to act as agents for the Farmer, they are authorised to retain \$1 for each new subscriber, and 10 per cent. on all other collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, AUGUST 10, 1832.

ISABELLA GRAPE.—This grape is rapidly coming into favour and will soon, we think, rank among the first in all our vineyards and gardens. It is a singular circumstance that the good qualities of a grape so long known to cultivators, should have escaped notice for so many years. Only about two years ago, a gardener of considerable intelligence, who makes gardening a business, and who had cultivated the Isabella grape for sale among other kinds, informed us that he would not give it a place in his grounds were it not that the vines were sometimes called for by his customers. He advised us not to take it (we were about buying some,) for it was, he said, "a worthless, contemptible variety, scarcely deserving the name of a grape." That very year, however, a vine that remained unsold, and which had escaped his grubbing hoe, bore fruit, which fruit he did not think worth gathering. About the first of October, a visitor seeing the grapes and not knowing the kind, asked him what grapes they were, "O nothing but the miserable Isabella," said he. The visitor pulled a bunch and tasted them. Why, said he, they appear good to me. "Good," said the gardener, "here, try these," handing him some chasselas that he had preserved. Indeed, said the visitor, I think the Isabella as good as these. The gardener was vexed at the bad taste of the visitor, and rather peevishly caught a bunch of the Isabella and tasted one himself, when as the sailors say, he was "struck all aback;" he then acknowledged that although he had cultivated the Isabella for many years for sale, he never before knew their good qualities. He now considers them the best grape under all circumstances in his nursery.

The cause of this error as to the qualities of the Isabella, has arisen from a mistake in the marks and time of the maturity of the fruit. It has almost universally been supposed to be ripe when it became black or rather deep purple, and this takes place the latter end of August and beginning of September; when it is now found not to be ripe for nearly a month afterwards. Let those, therefore, who have a vine of this grape under the bans, allow the fruit to remain on the vines till the latter end of September or even the forepart of October, and then try them. Besides being fine table grapes, when thus mature, they may be put away in jars and preserved till the next spring. They also make an excellent wine, as has been proved by a gentleman at the north.

The following notice of an Isabella vine is taken from the Genesee Farmer. (We ought to have remarked, that it is one of the hardiest grapes known, and one of the surest and most abundant bearers.)

We lately examined a grape vine of the variety known in this vicinity as the Isabella grape, in the garden of H. B. Williams, Esq. of three years' growth, on which was upwards of one thousand clusters of grapes. We think it would not be over rating to say, that the prospects were fair for this vine to produce two hundred and fifty pounds of grapes this season. Similar grapes were worth in this market the past season, twelve and a half cents per pound; but should the produce be two hundred and fifty pounds, and be sold at ten cents per pound, the amount would be twenty-five dollars. One acre of ground would be capable of supporting one hundred and fifty vines—which at the above rate, might produce \$750. Now we are sensible that this sum will appear so large to some of our farmers, that they will say it is impossible to make an acre of land produce so much, but yet we think it might be done.—Let them examine for themselves, make fair allowances for the uncertainty of all crops, as to growth,

market, &c. and then say whether there is not a greater prospect for profit in the cultivation of grapes, than any other crop whatever.

CORK TREE.—We are much indebted to General Forman for the stock of the cork tree, mentioned in the following letter. It will henceforth form a most appropriate ornament, and conspicuous item of horticultural curiosities, in the office of the American Farmer. The stock is about seven feet long and six inches diameter at the butt end, and would in a very short time have attained sufficient size for the purposes of cork. Indeed, even now, corks of a medium size can be made from the bark. Must truly do we regret the loss the General has sustained in this tree; for however lightly some people may esteem such things, it is no trifling matter to be deprived of that which had been the object of our care and attention for seventeen years. However trifling such things may be in commercial value, they become objects of our affection from long and habitual companionship, and are not inaptly termed our "household gods."

MR. SMITH: Cecil county, Md. July 31, 1832.

I send you the stock of a cork tree, planted from a growth of one year from the acorn, in the autumn of 1814. The last winter proved fatal to it, but it has lived long enough to prove that if the grounds of Fortress Monroe were planted with this tree, there would soon be better shade than the live oak affords. Although I have at different times, planted large quantities of the live oak acorns, which have come up and flourished, yet I never succeeded in preserving one through the winter. I am convinced that the cork tree, also an evergreen, is much the hardiest.

I am your ob't serv't,

T. M. FORMAN.

MR. SMITH: Baltimore, July 29th, 1832.

Sir—In your No. 19, vol. 14, you notice a particular kind of seed you had from Mr. Skinner, which he received from Commodore Porter—you would be obliged to any person for its botanical name. Mr. Skinner presented to me this summer a small parcel of seed by the name of rare tree, which he received from Commodore Porter. I expect it was the same as yours. The seed has vegetated, and the plants are from 6 to 8 inches high, which I find to be the *Acacia julibrissin* of Linnaeus. This tree is very ornamental, and will stand this climate, provided the plants be strong when planted, and protected with a bass mat or any other slight covering the first two winters. Mr. Philip Thomas has a fine specimen growing in front of his country seat, that produces flowers every season. It was planted many years ago, I understand, by Mr. Latula, the former owner of the estate, to which gentleman the inhabitants of Baltimore are very much indebted for introducing a great many of the choice plants that were found in the old collections.

The *Acacia julibrissin* is the Goul ebruschim, or rose of silk, of the Persians, and the *Gazia* of Italian gardeners; is an elegant hardy tree, with tufts of pink colored flowers, which resemble tassels of silken threads.

I have plenty of plants ready for sale this fall, from 5 to 8 feet high, which I can supply at one dollar each. Respectfully,

SAM'L FEAST, Nurseryman.

WHITEWASH.

MR. SMITH: Please to correct my communication of a wash or paint, by striking out the word *chalk*, which was not intended there. Clay only, soft unctuous clay, will diffuse in the wash and penetrate the pores of the wood. Chalk or lime washes, that merely coat the wood, are not intended.

A CLAYTIE.

(From the Genesee Farmer.)

THE KING BIRD, or "Bee Catcher."

MR. EDITOR,—I have kept bees for several years, and have always observed that the king bird was remarkably busy in the vicinity of my bees from about the 1st of June, till the middle of September, and that too, in the afternoon, in fair weather. Having heard it argued by some, that this bird caught and devoured bees, and by others that they did not, I determined this season to satisfy myself whether they did or not. I therefore killed a number of them, and upon examination found their *gizzards*, (I could not discover that they had any crop,) filled with bees, some nearly entire, and some in fragments, and upon further examination, found that the bees were all *drones*. I am, therefore, satisfied that they do not meddle with the *working bees*, unless through mistake. The question naturally arises, is the swarm injured by their preying upon the *drones*? W.H.

N. Almond, July 18, 1832.

(From the Baltimore American.)

INVERSION OF TREES.

A curious experiment upon the inversion of trees has been tried in England with interesting results. The object was to ascertain the laws by which the circulation of sap is regulated, and the effect upon the growth of the tree, of inverting the stems, or in other words, of converting the branches &c. into roots. It is said to have been proved, that if the stem of a plum or cherry tree, which is not too thick, be bent and the top be put under ground, while the roots are gradually detached, in proportion as the former top of the stem becomes firmly fixed in the soil, the branches of the root will shoot forth leaves and flowers, and in due time produce fruit.

(From the Genesee Farmer.)

DISEASES IN PEAR TREES.

Those who are so unfortunate as to have their pear, apple, or quince trees injured by what is usually termed the fire-blight, will do well to cut off all branches on which they discover the discoloration of the leaves immediately; this is the best preventive against the spread of the disease.

(From the Genesee Farmer.)

CALVES.

It sometimes happens that calves are troubled with a looseness of the bowels, or scouring, more especially after rains, when the grass grows fast. To prevent this, a little lime mixed with meal and given to them, will in most cases, stop the complaint within a few days.

[Better put them to hay or other dry food for a few days.—Ed. Am. Farmer.]

(From the Genesee Farmer.)

BOTTLED GOOSEBERRIES.

A correspondent says, "A bottle of green gooseberries were closely corked, laid away in the cellar in 1829, and forgotten until the latter part of this spring—a period of nearly three years. On examining them, they proved to be in fine preservation, and made a most excellent pie."

HORSECHESTNUTS.

The powder of horsechestnuts being mixed with a third of flour, is found to make better paste than that made from flour only. (Mech. Mag. viii.) We are glad to observe that these nuts can be applied to some useful purpose, and hope country shoemakers and bookbinders will take the hint.—Gard. Mag.

AGRICULTURE.

AN ADDRESS

To the Essex Agricultural Society, delivered at Andover, Mass. 29th Sept. 1831, at their Annual Cattle Show. By HENRY COLMAN.

Mr. President and Gentlemen of the Agricultural Society:

I am not insensible to the honor of your appointment on this occasion. I should not, however, have undertaken this duty, but from the consideration that every man is bound to render any practicable service which the community demands of him. You do not expect an oration. Agriculture has little concern with rhetorical flourishes. Determined principles, plain matters of fact and the results of well conducted experiments, are most useful. These will be the subjects of my address.

I. The first object of a farmer should be to produce as much as he can. We are not speaking of mere amateur farmers, who do not need the products of a farm as a means of subsistence or profit, and who are at liberty to farm as much or as little as they please; nor of your mongrel farmers, a sort of "jack-at-all-trades," who farm a little, and trade a little, and manufacture a little, and jockey a good deal; but of those husbandmen, whose whole dependence is on their farms for their own and the support and comfort of their families. The object of such farmers should be to produce from their farms as much as they can, and of that which is most needed or most profitable. We lay this down as a great principle, and shall presently come to the qualifications which belong to it. Every man should obtain from his farm all that he can. This will require labor and care; but the necessity of labor and care, where they are not excessive, is a blessing, not an evil. Occupation is enjoyment. Idleness is always hazardous to virtue, and renders a man a nuisance to his neighborhood. There is a satisfaction in a farmer's gains, not to be found in many of the occupations of life.—The increase of his products impoverishes no other man; but confers a benefit upon the community, by extending the means of human subsistence, rendering the land which he cultivates more fertile, and inciting others to emulate his example of good husbandry.

There are three modes of increasing the produce of the soil, within the reach of every farmer: draining, ploughing, and manuring. I can only glance at these topics, for it is not my intention to give a treatise on agriculture.

1. Of draining. There are extensive tracts of low and wet land in the country, enriched by the decay of their own native growth and the copious washings of centuries from the surrounding hills, which require only to be drained, to produce, instead of a worthless herbage, the best of English hay and corn. In many cases, removing the water by opened or covered drains, so formed as to cut off the springs at the sides of the meadow, is all that is necessary. In other cases, the addition of some firmer substance, such as sand, or gravel, or loam, is needed to give it consistency. This is general is to be found in the neighborhood, and may be placed on the meadow at a season when such labor can be easily applied.—In most cases, the materials for manure obtained from the ditches, and the first or the two first crops will defray the expense of the improvement.* Sand contributes

to the improvement of such lands, by dividing the soil into fine parts, and rendering it favorable for cultivation and the growth of the finer grasses; both sand and gravel serve to give it firmness; but probably the best mode of managing such meadows, after being well drained, would be to invert the sod, and after rolling, to cover it with a coating of good loam mixed well with manure, to the depth of about two inches or to apply such a covering without inverting the sod, and to sow the grass seeds immediately upon this. Some lands have been managed in this way with great advantage. A mistake is frequently made in the too copious application of sand or gravel to meadows. So much has been put on as to prevent in a great measure the benefits expected from it. Such applications do nothing towards enriching the soil; but are required only to aid in dividing, drying and giving it firmness. Beyond what is required for these purposes, the application would be hurtful. The first object must be to lay these lands as dry as possible; and it suggests itself as an important improvement, where it is practicable, to erect a small embankment at the outlet of such meadow, with a sluice way and gate, so that the meadow may be flooded at pleasure. Thousands of acres in this country admit of these improvements.—They may be effected at an expense which, by their increased products, would be soon remunerated.

2. The next means of improving land is ploughing. We do not cultivate land enough; not nearly enough. Several farms in the country contain hundreds of acres, with not more than six or ten under the plough. This is not farming; this is only seeing how we can get along without farming; it is, in fact, going to sleep in the cart and leaving the cattle to find their own way. But the land, says the farmer, will not pay for cultivation—there is some such—in general, however, most land will much more than pay for cultivation. But it costs labor; so does every thing else in life, that is worth having. It requires manure—true! but cultivation is the great means of obtaining manure. Cultivation increases the products of the land. The more products, the more stock; the more stock, the more manure; and land in general, under generous cultivation, and frugal management of its products and manure, is capable not only of maintaining but increasing its own fertility. The great law of divine providence holds in this as in other cases, the more you do, the more you can do; to him that hath shall more be given.

The late Col. Taylor of Virginia, one of the most distinguished farmers in the country, could at one time scarcely manure five acres of his land; but in eighteen years he so increased the products of his farm as to be able to manure one hundred and fifty, from the resources of the farm itself.* This improvement was chiefly effected by the extended cultivation of Indian corn, and a most careful application of the fodder or offal. Cultivate your farm to the extent of your power of manuring and keeping it clean; and the power of manuring may by judicious management, be increased to an almost indefinite extent. Land, which, when it is manured, will not more than pay for the labor of cultivation, should be abandoned.

There is a material distinction between ploughing too much land and ploughing land too much. For garden culture and tap-rooted vegetables, the land cannot be in too fine tilth; but for other crops it is not so important; and the great object should be to preserve all the vegetable matter in the soil, that by fermentation and decomposition, it may supply food to the growing plants.—The common mode of ploughing green sward, for example, is to tear it in pieces in a rough and careless manner to leave the sods loose on the surface, and then by harrowing to break them fine, and if possible, to bring all the grass and vegetable matter to the top to be exhaled by the sun and air—a more wasteful process cannot be pursued. Mr. Phinney, an intelli-

gent and practical cultivator in Lexington, Mass. had the curiosity to weigh the vegetable matter in a single foot of sward land, taken from a field which had been mown for a number of years, the soil a light loam with a gravelly bottom, and thinly set with red top and herds grass, and found it to contain nine ounces of vegetable matter, consisting of the roots and tops of the grasses; giving at this rate upwards of twelve and a quarter tons to the acre. This itself would be a very considerable manuring; but this by the usual management, is entirely lost. It is, therefore, of the last importance, in breaking up land, to turn the sod as completely as it can be turned, and at a season when there is the greatest quantity of vegetable matter on the surface; to roll it that the air may be excluded, and all the benefit of the decomposition of the vegetable matter retained in the soil; and afterwards to cultivate the crop as far as possible without disturbing the sod. My own authority is of little importance in the case, though I have for several years practised on this system and been satisfied of its utility; but in addition to the testimony of the gentleman referred to, whose opinions are entitled to great respect, you have the experience in its favor of two as eminent farmers as the country has produced, John Lorain of Pennsylvania, and Earl Stunson of New York, who have strongly recommended it.

The depth of ploughing and the number of ploughings to be given to land, are to be determined by circumstances. Ploughing is too deep when it buries all the richer parts of the soil, and brings to the top only a cold, gravelly substance, unless you have manure in such abundance, that you can create a new vegetable surface. Frequent ploughing in heavy and tenacious soils is useful with caution only, that it must not be done when the land is wet. Frequent ploughing injures light soils, by bringing all the vegetable matter contained in them to the surface, to be exhausted by the sun and air. Ploughing among growing crops is often useful in time of drought. By some well conducted experiments of John C. Curwen, an accurate observer and intelligent farmer, with glasses contrived for the purpose to ascertain the quantity of evaporation from the land, it was found to amount on the fresh ploughed ground to nine hundred and fifty pounds per hour on the surface of a statute acre; whilst on the ground unbroken, though the glass stood repeatedly for two hours at a time, there was not the least cloud upon it, which proved that no moisture then arose from the earth. The evaporation from the ploughed land was found to decrease rapidly after the first and second days, depending on the wind and sun. These experiments were carried on for many months. The evaporation after the most abundant rains was not advanced beyond what the earth afforded on being fresh turned up.*

Few operations of husbandry among us, are executed in general, in a more slovenly way than ploughing. The half-finished manner in which the sod is turned, the frequent balks, the ragged and uneven ends of the fields, and the utter disregard of all straight lines, show the importance of our ploughing matches, which it is hoped, with the introduction of better constructed ploughs, will eventually correct these habits and introduce neatness, care and regularity, as convenient and useful in saving labor as they are agreeable in the appearance.

3. I proceed to the third operation upon the land, manuring. Manure is the great means of all successful agriculture. My remarks on this as on other topics, must be brief; and will relate to matters which are not generally considered, rather than to those which are familiar.

The first means of enriching the soil is that to which we have referred, that of ploughing in the vegetable matter, already on the surface. Late ploughing in the spring is doubtless preferable to early by which means you have the advantage of the early

* A successful experiment of this kind has been made by Asa T. Newhall, of Lyndonfield, where at least ten acres of a sunken and useless bog have been, at a moderate expense, brought into productive English mowing. He has furnished the committee with ample details on the subject, which will be found appended to their Report on Reclaimed Meadows. An improvement of this sort is likewise to be found on the farm of Isaac Osgood, of Andover, where, by good judgment and labor, meadows of some extent have been redeemed and made productive.

* Albany Ag. Tracts, No. 2, p. 56.

* Curwen's Hints, p. 273.

growth of the grass ploughing-in green crops, which were sowed expressly for this purpose is another mode of enriching land, successfully tried and warmly recommended by some persons, but is little known among us.* It is objected by many persons, that in this way you return to the land no more than was taken from it; this would be true, if it were not that plants derive much of their support and growth from the atmosphere. Another object with every farmer, should be his compost heap. Nothing which is susceptible of decay and so of forming manure, should be lost. There are few farms among us which do not contain upon themselves, either by the road side or in their meadows and swamps, the materials for forming compost manure in great abundance; and farmers will permit me to remind them, that the summer and autumn are the best seasons for making this provision. The saving of liquid manure upon our farms is little attended to. Universally in Flanders, one of the best agricultural countries in Europe, water-tight vaults are constructed under all their stables, and their liquid manure is considered of as much or greater value than their solid manure. Such a practice among us would be of great utility; and by constructing cisterns under our stables to be filled with mud or loam, and by littering our cattle abundantly, this valuable manure which is now lost, might be turned to the best account. But the great means of obtaining manure is from consuming our produce upon the place, in the form of hay or vegetables; where this can be done, and to the extent to which it can be done, we may be sure of the means of increasing the fertility of our farms. Here we come back again to the great circle of reciprocity and mutual connexion and benefit.

Increasing your products will enable you to increase your stock; increasing your stock will increase your manure; increasing your manure will help you to increase your cultivation; increasing your cultivation will increase your products.

This is the golden chain of comfort and wealth which Divine Providence has formed, every link of which is essential to the perfection of the whole. I will remark, in passing, upon the application of manure, it is the opinion of many farmers, that it is better to keep their stable dung until it is a year old and becomes thoroughly rotted; but this practice is condemned by the fullest experiments. Animal manure cannot be applied to the land in too fresh a state, though it would often be beneficial to mix it with other substances. "By fermentation," says Curwen, a practical farmer already quoted, "dung is reduced to one half its bulk, and its quality is reduced in greater proportion. The evaporation from dung is five times as much as from earth, and is equal on the surface of an acre to five thousand pounds per hour, and this is losing its most valuable gasses. By making use of dung in its freshest state, the farmer may extend his cropping to one-third more land with the same quantity of manure." "The experiments of Arthur Young and other practical and scientific farmers have demonstrated," says Judge Buel, as competent an authority as I can quote, "that animal and vegetable manures, which undergo a complete process of fermentation in the cattle yard, or upon the surface of the ground, lose from thirty to sixty per cent. of their fertilizing properties, and if properly spread and buried under the soil, that this loss is prevented, and that a decomposition does immediately take place, even of dry straw, sufficient to answer valuable purposes to the first crop."—"Experiments show," says Mr. Young, "that every atom of vegetable matter in the soil begins to be decomposed immediately, and to want no previous fermentation to enable it to feed

plants." The application of fresh stable manures cannot properly be made to crops of small grain, because they tend to increase too much the haulm or stalks of the plant, and expose it to rot and mildew; and because the seeds of weeds will in this way be carried into the fields. But such manures may be most properly applied to hued crops, and in a sufficient quantity to prepare the ground without further applications, for a crop of small grain.

II. The second great topic to which I ask your attention, is the consumption of the produce upon the farm. This should be the object of every farmer. He should produce as much as he can, and should strive so to use up his produce upon his place as to have the means of increasing its productiveness. This suggests two topics of inquiry: the kind of crops to be raised and the mode of applying them.

1. English hay is considered among us as the great crop. The average yield cannot be rated at more than one ton and a half to the acre; a ton in the opinion of many farmers would be a more accurate estimate. This, at the price which it has borne for several years past, can hardly be considered a valuable crop. It is the crop on which most of our farmers in the neighborhood of large towns, depend for obtaining ready money. But the sale of hay from a farm is subject to serious abatements. For every ton of hay sold from the farm, in order to preserve its fertility, the farmer should return a cord of manure; this, delivered at the farm, cannot be rated at less than two dollars. To this, you are to add the expense of marketing the hay, which in any situation is at least a dollar. A ton of hay, then, consumed on the farm, is worth three dollars more than if sold from the place, i. e. if it bring only ten dollars in the market, and by any mode of consuming it upon his place, the farmer can realize that amount from it at home, he may consider it as better worth thirteen dollars on the farm, than ten dollars carried from the place; or, to state the case differently, it is better for the farmer to use it at home, if he can there make it worth seven dollars per ton to him, than to convey it any considerable distance to market and obtain ten for it. At this rate, however, and I can see no fallacy in the calculation, hay at present prices and yielding one or one and a half tons to the acre is not a profitable crop. Indeed, unless where there are extraordinary resources for obtaining manure, such as on the sea-shore or in the vicinity of bog mud, the sale of hay must be considered as a wasteful kind of husbandry. It is, properly speaking, in many cases, killing the hen that lays the golden egg.

(To be concluded in the next number.)

(From the New England Farmer.) MASSACHUSETTS AGRICULTURAL SOCIETY.

Report of the Committee on the best cultivated Farms.

The committee appointed by the trustees, to examine and consider the claims for premiums for the best cultivated farms, submit the following report:—

The committee, with much regret, find that the premiums offered by the trustees, for the best cultivated farms, have not received the attention from our respectable farmers, that was expected. Only three applications have been made this year; and although they all have merit, and appear to come from skillful agriculturists, your committee do not perceive in either of them such superiority, either in their processes or results, as would justify them in recommending a premium. They had hoped that the encouragement offered, and the desire which they knew was generally felt by that respectable class of citizens to promote the interests of agriculture, would excite a generous competition among our most intelligent and practical farmers, which would prove useful to themselves, and more useful to their brethren who had less experience and skill than themselves, by en-

abling the trustees to communicate, through their statements, their methods of cultivating their farms, with results—the most satisfactory tests of good husbandry. The information communicated in this way, would be founded on and accompanied by a history of the experiment, the best foundation of all science, and more especially of improvement in agriculture. To answer this end, or indeed any other valuable purpose, it is indispensable that the applicant should state with much particularity, the kinds and qualities of the soil of his farm, his manner of tilling, manuring, planting, sowing, and gathering his crops; of manufacturing his butter and cheese, and making and preserving his cider; his rotation of crops, and the quantity of produce of every kind, and indeed all his processes and operations in carrying on his farm.—To prevent misapprehension, and insure this benefit from their statements, the trustees, in their proposals, specified with minuteness, the particulars which they deemed necessary to render their account useful to the public, and which they required to be stated as the condition on which the premium would be allowed; and although it was perceived that this particularity might occasion some trouble to the farmers, it was hoped that the benefit they might derive from a more accurate record of their own proceedings, the consciousness that they were benefiting the public, and the premium offered, would be deemed an adequate compensation. The committee, although twice disappointed, do not relinquish the hope they at first entertained, nor feel a doubt of the benefits that will accrue to our farming brethren from this measure, if they see fit to co-operate in carrying this into effect.

It is well known that the trustees, for many years past, have given premiums for the encouragement of the cultivation of nearly all the different agricultural products, vegetable and animal, that are grown in our country, and thereby materially promoted improvements in most of them; the judicious management and cultivation of a farm, it is thought, requires a combination and practical exercise, by the farmer, of all the knowledge and skill necessary for the cultivation of the articles separately, that are produced on that farm. It is obviously a different science, more complex, more difficult to learn; requiring judgment, experience and observation to carry it into successful practice. A man may know how to cultivate any or all of those vegetables separately, and yet not understand how to carry on a farm for the best advantage. Next to an individual's own experience, is a true and particular account by others, of a judicious and skillful cultivation and management of farms like his own, where the expense of labor, markets for crops, and habits of living, are nearly the same; if he can have their method and practice fully and accurately communicated to him. The latter is indispensable to enable him to adopt their experience as his own. It will probably be found, that many important agricultural processes are yet unsettled among our intelligent farmers, and some practice one way and some another—sowing of grass seed is an instance, whether it is best to sow it in the fall or spring, by itself alone, or with grain, and what grain. Different practices and opinions on this head, will be found in the few communications the committee have received. Nothing in the opinion of the committee would tend more to settle these questions, which must be determined by experience, than an interchange of the opinions and accounts of the practices of scientific and experienced agriculturists, which a competition for these premiums would produce.

Although the committee entertain these views of the subject, they cannot but feel a discouragement from the want of interest the public appear to take in it, which certainly ought to lessen their confidence in its practicability, if not its utility. They however venture to recommend the continuance of a bounty for this object, for one year more; provided the trustees shall think themselves justified in raising the

*The Massachusetts Agricultural Society the last year, gave a premium to William Buckminster of Framingham, for a successful experiment in turning in two crops of buckwheat to the acre, greatly to the improvement of his land. The account is given in their Repository for 1831, vol. xi. number 52.

premiums to an amount, that will liberally indemnify the successful candidates for all the trouble and expense of taking the particular account required, and be considered an honorable mark of distinction to an intelligent practical agriculturist.

The Rev. Morrill Allen, of Pembroke, has claimed a premium for his farm of about seventy acres in that town. His statement, the committee think, shows him to be a scientific and judicious cultivator. He states, that he had no capital, and, in seaman's phrase, "was obliged to work his passage;" and it appears that he began with purchasing small parcels of land, one after another, gradually subduing the bushes, and inclosing them with walls, and then proceeded to improve the soil. Part of the land consisted of old fields, which had been exhausted by tilling without manure. These he renewed principally by the incorporation of earths of different qualities; the cold and tenacious soils he dressed with silicious earths, and other materials that tended to open and warm them; and sandy soils he dressed with clay and swamp mud, and alluvions in which sand formed the chief part.—The committee think Mr. Allen has shown judgment and discrimination in the mixture of earths, and making compost manures adapted to the quality of the soils to which they were to be applied, that is worthy of notice and imitation. It will be seen by Mr. Allen's statement, that he makes yearly from 300 to 500 loads of compost manure, by carrying earths, swamp mud, and vegetables, into his barn-yards, and adapting the mixture to the soils it is intended for.—This is rather a large quantity for the land he cultivates, and accounts for his crops of grass on land once exhausted. Last year he planted seven acres of Indian corn, three loamy and four sandy soil, and in one acre of the latter, six cords of compost manure, and in another six casks of lime were spread, but he omits to state the quantities produced on these particular acres. No manure was laid on the other five acres, and the whole produced two hundred and ninety-eight bushels, which may be considered a fair crop for the quantity of manure used. Mr. Allen's rotation of crops is simple. He tills nine acres, which he plants alternately with corn or rye, and once in five or six years plants with potatoes, or beans, or some other vegetables, which he thinks makes a favorable change from his common course; but here again he omits the quantity of manure used. His practice, he says, is, as soon as he has taken off the crop of rye, in August, to plough in the stubble, and sow grass seed, which produces herbage that he afterwards ploughs in as a green dressing. This practice the committee take upon themselves to recommend, convinced that the farmer would find his labor and expense amply compensated, by its mellowing and enriching his land, and saving his manure, the most precious article on his farm. The committee regret that Mr. Allen has not stated when he sowed his rye, whether in the spring or fall. It has, they believe, generally been thought, that in common seasons Indian corn would not be ripe for gathering in season to sow winter rye. If this can be effected by planting early, or using corn that ripens early and yields well, it might be often found a convenient and advantageous succession of crops. Spring rye is by many not thought so certain a crop; but on this question a more extensive knowledge of the practice and experience of successful farmers is wanted. Mr. A. has also omitted the quantity of rye produced in this rotation of crops; but he tells us that in laying down his tilled land, he prefers sowing his grass seed alone in the month of August, that September will answer better than either of the spring months, and that it is better to sow it with winter rye than with any spring grain. His clayey soils, not suitable for grain, he sometimes turns over with a plough immediately after the grass is cut, rolls down the furrows, and puts on a dressing of manure and seed again. In this way, hay is his principal crop; and it appears, that upon twenty acres which had been ploughed

and laid down, and twelve acres of meadow and irrigated land, he usually cuts, according to his estimate, thirty-three and three-quarters tons of English hay, of first quality, ten tons of second quality, and fourteen and one-third tons of inferior hay, making about fifty-eight tons, better than one ton and a half to an acre, and over a ton of the first quality to an acre. The committee regret Mr. Allen did not receive the trustees' notification in season to ascertain the quantity of hay made this year, as he put it into his barns. The estimate furnished is one made in 1827, when the hay was in the barn; and he says his crops have varied but little for four or five years past. Mr. A. sells from ten to fifteen tons of hay annually, and keeps but a small dairy. Mr. Allen states, that forty acres of his land are of a light sandy soil, and so much exhausted by tilling without manure, that he was discouraged from attempting to recover it in his usual way, and that last spring he ploughed three acres, fenced it in, and sowed it with clover seed, which have come up and look well, and he expects, if the worm should spare them, they will enrich his land, and produce a valuable though distant crop of timber and cord-wood. He has also ploughed and sowed five acres, this fall, with white pine seed, and was about ploughing in several acres with white oak acorns. These experiments the committee consider useful to the public, and creditable to the enterprising cultivator, and they most heartily wish him success. One man and a boy sixteen years old, are employed constantly on the farm; and in addition, day-laborers are frequently hired.

It would give the committee pleasure to be able to recommend a premium to this respectable and skillful cultivator; but, considering that the statement of the applicant to whom a premium is given, should not only show that his farm was judiciously cultivated, and his particular method, but also the quantities and amount of all the products, with as great certainty as the nature of the case will allow, in order that other farmers may be able and induced to improve his example; they think they should not be justified in recommending a premium to be awarded him; but they hope the trustees will see fit to bestow on him a gratuity of fifty dollars, for the example he has set of judicious and skillful husbandry.

Peter Thatcher, Esq. of Attleborough, has claimed a premium for his farm in that town, consisting of three hundred acres. Mr. Thatcher's statement shows that he has exercised good judgment in subdividing, renovating, and enriching his extensive farm. It appears, that about ten years ago he purchased an old farm of two hundred acres, now part of his farm, that for several years yielded him only three or four tons of hay, where he now cuts from thirty to forty tons of English hay. His method of cultivating, he says, has been to remove hedges and subdue the bushes by degrees, and plant but little and manure that highly. He usually spreads five cords of manure on an acre, and puts five more in the hills, and for four or five years past has gathered crops of two hundred bushels of potatoes and sixty bushels of corn to an acre. That which Mr. T. seems to consider as his greatest improvement, is the bringing into good cultivation a piece of wet land, on the sides of a hill, covered with weeds and bushes. He commenced with the upper part, ploughed half an acre, drained it, and then carried on a quantity of old hay and long manure, and planted it with potatoes and hued them without ploughing, and it yielded a large crop of good potatoes; and in this way he reduced the whole piece, and it now produces a great crop of English hay. His rotation of crops has been potatoes the first year, the second corn, and the third spring rye, with which he sows grass seed as early as the state of the ground will permit, and rolls it down with a heavy roller. He prefers spring rye to oats, to lay his land with, and the spring to the fall, and thinks the grass seed takes better with rye than oats. Mr. T's practice is to make large quantities of compost

manure in his barn-yard and hog-pens; in the fall he carries it all out of his yard, and the next spring spreads the manure thrown out of the barn; over the straw and hay that have been collected in the yard during the winter, and covers the whole with a crust of loam that he carts in, which he thinks prevents the strength of the manure from escaping. This compost he uses both for his corn and grass. Mr. T. has five hundred apple trees on his farm, four hundred of which are mostly natural fruit, and which appear to have received no particular attention from him; the other hundred are young trees engrafted with good fruit, and these he has practised washing every spring with soap and ley, mixed in equal parts, and digging around and manuring them. He keeps fifty sheep, for some of which he says he has received a premium in his own county; but makes no more butter and cheese than was wanted in his own family. The committee were particularly pleased to find that Mr. T. was able to carry on this large farm without any ardent spirits. This practice, wherever adopted, will prove as beneficial to the laborer as the farmer—highly beneficial to both.

Although the committee cannot report that they consider Mr. Thatcher entitled to the premium proposed by the trustees, they with pleasure state, that they think he has great merit as an agriculturist, in subdividing and bringing to a state of good cultivation a farm, which a few years since, consisted of rough, exhausted and profitless land.

Jonathan Allen, Esq. of Pittsfield, in the county of Berkshire, has also presented a claim for a premium on his large and excellent farm in that town, accompanied by a statement of his manner of cultivating, and the products he gets from it. The farm consists of forty acres of meadow or interval, which receives its manure annually from the overflowing of the Housatonic, and about two hundred and ten acres of upland. Mr. Allen appears to have exercised much agricultural science, as well as care and attention, in the cultivation of his farm and in making useful agricultural experiments. It will be recollected, that Mr. Allen applied for a premium on this farm last year and presented a statement of his manner of cultivating it, the crops it produced, the rotation he has practised, and the result of his experience as to the best time and manner of laying down land to grass. This statement was noticed by the committee, and published with their report in the Massachusetts Agricultural Repository. His statement as to the general course of his husbandry is not materially varied this year, and the committee regret to find almost the same want of particularity as to the quantity of products. The quantity of hay, his principal product, rests on estimate, without having weighed a load; a small part only of the winter rye and oats were threshed, and no part of his spring rye or beans were threshed or in any way measured; but his Indian corn was, and four acres were found to produce four hundred and fifty bushels of ears; Indian corn was grown upon the same land the year before, and this year it was manured with seventeen loads to the acre, put into the hills. Sheep are the principal stock of the farm; he kept four hundred and thirty this year, from three hundred and fifty of which he sheared eight hundred and fifty-one pounds of wool of the first quality. May he considers the best time for lambs to come. Mr. Allen states, that in years past, he has made experiments in raising potatoes, and this year has made many more with care and attention, which, in the judgment of the committee, entitle him to the thanks of the public. For a particular account of these experiments they refer to his statement, which accompanies this report, and recommend it to the attention of agriculturists. From a remark of Mr. Allen, that he could not with convenience thresh out his grain in season to measure it so early as was required, the committee apprehend he must have misunderstood their regulation, which only requires that the application should be made by the first of October,

but the evidence or particular statement may be exhibited any time before the first of December. It appears to the committee that Mr. Allen has cultivated his farm like a skilful and attentive agriculturist, and has realized great product, and they hope profits; but his statement is too general and indefinite, leaving the quantities of the greatest part of the product to depend on estimate; and they think does not, on the whole, show his cultivation so superior as to justify them in reporting in favor of a premium. Considering, however, the pains Mr. Allen has taken to introduce upon his farm a variety of vegetable products and choice fruit, and especially the nice care and attention he has given to the cultivation of potatoes, the most valuable of our roots, the committee recommend a gratuity of thirty dollars to be presented him.

Wm. PRESCOTT.
P. C. BROOKS.

HORTICULTURE.

NATIVE ORNAMENTAL PLANTS.

Mr. SMITH: Columbia, S. C., July 20th, 1832.

Dear sir.—Noticing some short time since several editorial pieces in the most interesting journal under your parental care, recommending the culture of ornamental native plants, many of which are truly, as you say, fully as deserving the care bestowed on them, as most of those that are obtained at a great expense from foreign countries, induces me to throw in my mite with a view to forward this praiseworthy object.

The delightful study of botany is one of those luxuries, which, it is true, we might dispense with, as we could with all other embellishments and sweeteners of life; but the elegance of the amusements and affords, were it commendable for this alone, would fully deserve the attention of all that can bestow a few leisure moments to it. It has, however, higher claims to our notice, as one of the branches of this natural science by which we are enabled to watch the secrets of nature in her operations on the vegetable world, which supply us with food, clothing, medicine, and an infinity of objects for the arts, so abundant that it is next to impossible to enumerate them. The beauty of the objects of botanical science, and the innocent pleasures attending its pursuit, are chiefly my present object. To do justice to such a subject is undoubtedly much beyond my powers; for it naturally claims a corresponding elegance of style, and a flowery flow of language not within my reach.

Some objections have been made, apparently with some reasonableness, to the number of harsh and uncouth names given to many of these lovely objects.—It must be admitted that this is a serious fault, and this, I fear, will be found a sufficient reason why the names of plants in gardening will continue somewhat different from what they are in botany. What sweet and lovely lips could be so twisted and contorted as to call a very beautiful and interesting plant, named by Willdenow "Schranksia uncinata," and by Michaux "Mimosa horridula?" Ah! Michaux, Michaux! How gallant for a Frenchman to affix so horrid a specific name as "horridula" to the sensitive, elegant, sweet-scented plant here named! True it has some prickles; but this is analogous with its lovely sensitiveness, which makes it shrink from familiarity. Saw you not that this is in accordance with this modest dread of pollution that it is armed, to forbid the rude touch of inconsiderate man? Or who could recognize an elegant little shrub in the name "Ammysine buxifolia," or "Leipophyllum buxifolium?" There are, however, many worse than these, which were taken at random. The harshness of the names are, however, more apparent than real, and more owing to our not being familiar with them than we are. But, if there are inconveniences in the use of botanical names, they would probably be still more numerous,

were two sets of names adopted; for plants have names enough already in all conscience, and these are inconveniences that must be borne in deference to the excellent reasons which botanists can give for their names, even if some of them do disfigure beautiful plants with horrid ones. This will probably give rise to two sets of names, one for botany and the other for gardening, as I have seen it proposed some years since, when it was suggested, for example, for that magnificent tree, the "Liriodendron tulipifera," proposing to call it "Liris." One of the great recommendations of the use of botanical names, is that they are understood every where in the world where there are botanists, and this, without scarcely the possibility of a mistake. The use of vulgar names ought, at all events, to be given up; for they seem to have been invented at the tower of Babel; for they serve only frequently to conceal the meaning of the speaker, and this misunderstanding may often be attended with very unpleasant circumstances, as I knew one instance of a physician who knew the botanical name of a medicinal plant, the "Podophyllum peltatum," but not the plant itself. He inquired for it by its vulgar name of "May apple," and was directed to another plant, the "Passiflora incarnata," also called "May apple." He administered its root, with what effect, I do not remember; but, for what he knew, he might have been administering poison to his patient. Mistakes of this kind, and from this cause, are often made than we are aware of.

Some fastidious persons have also made another objection, viz. the sexual system of plants, being, as they say, exceedingly indelicate. But, "Honi soit qui mal y pense." This objection is now generally overlooked; but to such as cannot get over it, I would advise seriously to select another planet to live in, where things may, perchance, have been ordered differently; for every thing on this terraqueous globe must harrow up their superdelicate nerves past endurance, as it appears, that the God of nature has thought proper to give sex to all organized nature. Indelicate as this may be in the eyes of some persons, it is very probable that the Creator was a better judge, in these matters, than they.

I am indebted to botany, with all its defects, although I have but a smattering of it, for many pleasant hours, and for the acquaintance of the best and most amiable men I ever knew; I am, therefore, very partial to it. How delightful it is, when a man's mind is rendered moody and peevish, by the ill-usage of a wicked world, to be able to regain his composure, and forget the ills to which he is a victim, by simply stepping out into his garden, the fields or the groves, where bountiful nature affords him, on all sides, attractions which he cannot resist, even if he were disposed to do so! How elevating to his spirits, as it must be at least innocent to his morals, to admire those endless beauties of the vegetable kingdom; to scan the infinite variety of contrivances with which the Author of all has endowed every plant, from the smallest moss to the most gigantic tree, to suit each for its purpose; how he has endowed some with the most brilliant colors, the most fragrant odors, the pleasantest tastes, and the most graceful forms. To speculate as to the particular object of each of those perfections; whether they were so created, simply to regale ungrateful man's senses; or, which is most probable, whether there is not, in all this, some mystery which his sagacity has not yet been able to penetrate. He must be satisfied, whatever be the result of his cogitations, that these things were not created in vain, and be grateful for the share of enjoyment they afford him, notwithstanding his ignorance.

That this country produces plants as interesting and as useful as any other country, is perfectly certain. They are much sought after in Europe, and some of them which we disregard here, bear a very high price there. Far be it from me to discourage in any degree the culture of exotic plants; I only wish

to attract some notice upon our neglected and frequently unseen native beauties.

Taking notice of our forest trees first, one of them will scarcely be found on trial, but what if planted in a suitable soil, giving it ample space to develop itself and assume freely its natural shape, will excite much more admiration than was anticipated. A tree, no matter of what kind, is a grand and beautiful object, and most of your readers must have seen a variety of them which had been left or suffered to grow unmolested in some old field, yard or lot, but that far surpassed in beauty of form, density of shade, &c. any thing that could have been expected from seeing them crowded together in our forests. Can a more magnificent object be seen under these circumstances than the "Liriodendron tulipifera." I have seen it, (I speak from distant recollection) at least fifty or sixty feet high to its lowest branches, with a body perfectly straight and probably about three feet in diameter at that height, and this superb column surmounted by a most beautifully expanded cone. The delicate line of its uncommonly shaped leaves, added to its other merits, made it one of the most grand objects of the vegetable world. Every species of our numerous oaks are beautiful and some of them unsurpassed. All the individuals of that beautiful family the "magnolias," are elegant. Some of them splendid and all highly deserving of culture. What exotic shrub bears a more beautiful flower than our "Kalmia latifolia," disgraced as it is with such names as calico shrub, laurel, ivy, &c. &c. the last two names being those of plants with which it bears no sort of affinity; but as they are the names of other plants, they surely should not be applied to this. We have also the "Rhododendron maximum," and several others, the beauties of whose flowers are unsurpassed. Also, the "Stewartia malachodendrum," the families of spiraea, symphonia, viburnum, lonicera, halesia, gelsemium, euonymus, crataegus, calycanthus, chionanthus, amorphia, andromeda, bigonia, climatis, gordonia, robinia, of the splendid azalea, &c. &c. which among the trees, shrubs and climbing plants, are of no common merit for ornament, besides the high value of some of them in the arts. Among the herbaceous plants, the beautiful ones are so numerous that only a few of them can be noticed. And to begin with the lily tribe; can any thing surpass the amazing splendor of some of them? I remember when, many years since, I first saw the "Lilium superbum" in its native glory, I was rambling through the forests beyond Pittsburg and came at once and unexpectedly on a small prairie of perhaps ten to fifteen acres in extent, when I was amazed by the surpassing splendor, brilliancy and gracefulness of several of these plants in full bloom, some of them probably at least seven feet high, and having some thirty or forty flowers expanded! Truly, "Solomon in all his glory was not arrayed like one of these." Connected with this family are the amaryllis, erinum, pancratium, &c. all of which are well worthy of culture and are cultivated and admired in Europe. The family of the acauleptas is also beautiful, and promise to be moreover of great utility in the arts; for besides the numerous silky agrettes that crown their seeds; the fibres of the bark of all of them are more or less susceptible of being converted into clutis of very fine texture and silky gloss. The "Fraseria walteri" is a curious and handsome plant not yet cultivated that I know of. The amsonias, gentiana, some of which are very ornamental; the hydrangea, hypericum, monarda, cenothera, yucca, "Spigelia marilandica," rhexia, parnassia, ipomea, the "Cantua coronopifolia" or "Ipomopsis elegans," really deserving its last specific name, the asters, the elegant "Calopogon pulchellus," the several cyperidiums, the numerous family of the orchis, &c. &c. But why should I attempt an enumeration of that which is almost innumerable?

To such persons who cannot bring themselves to think that any thing is worth their notice, whose value cannot be estimated in dollars and cents, and

who consider the culture of merely ornamental plants, as at best, a very idle pursuit, I would ask, whether, in a very hot day, and after having suffered much fatigue, the reclining in the shade of beautiful trees and shrubbery, is not of rather more benefit to them than the dollars they may have at the time in their pockets,—whether the refreshing fragrance of the flowers and the cooling and delicious tastes of the fruits, are devoid of utility? It is only by cultivating our native plants that their specific properties can be, first suspected, discovered and then proved. Can we form any idea of all the treasures in reserve for the world, lie concealed in thousands of vegetable productions that are now the object of our disregard? Have we any suspicion of the possible benefit to mankind that may be yet extracted from the vegetable world, in medicine, for food and in all the arts? And if most of the useful discoveries yet made in this world have been in a great measure the effect of chance, will not that chance be much enhanced when these objects have become more noticed, their culture attended to, and their every part studied with sedulous care? Every thing that softens the harsh nature of man, every thing that has a tendency to temper his passions, to draw away his attention, even for a moment from the sordid pelf and grasping avarice of unjust, rapacious, greedy and ambitious man, must elevate his feelings, purify his mind, ennoble his pursuits and avocations, and bring him nearer and nearer to that ultimate degree of perfection attainable by his finite being in this world. It is, perhaps, only by an extended study of nature that man can free himself from the thralldom of superstition which requires of him the total surrender of his reason, and by dispelling the gloom of ignorance, enable him to preserve and improve that faculty vouchsafed to him by his creator, which alone distinguishes him from the brute.

If you think, Mr. Editor, that the above is worthy of a place in your American Farmer, by admitting it, you will oblige one of your oldest subscribers and your obedient servant, N.H.

(For the American Farmer.)

PLANTS.

Greatfield, 7th mo 5, 1832.

Cypripedium humile succeeds well in loam mixed with vegetable earth under a deep shade approaching to twilight. I have a plant, covered by a large flower-pot with an opening in its side turned to the north, which has bloomed several times. The pot is slightly shaded by an azalea.

Cypripedium parviflorum seems to be only a variety of *C. pubescens*. I have plants of this (the latter) species from both wet and dry ground; and both sorts flower finely under the shade of shrubs, and also on the north side of a board fence.

Cypripedium spectabile is decidedly a plant of the swamps. In its natural localities, it is commonly covered by water in winter, and vegetates very late in the season, even when it is transplanted in dry ground. It also succeeds well on the north side of a wall or board fence; but vegetable earth ought to form a large proportion of the soil. This, as far as we know, is the finest of our North American species. It often occurs more than two feet in height, and sometimes with three flowers on a stalk. Its singular shape and fine colors—a delicate white tinged with red—render it a very ornamental plant.

Cypripedium arietinum is a native of a higher latitude and colder climate than ours. Professor BENEDICT found it on the banks of the "Rivière du Nord," in Lower Canada; but he found with it the species above noticed, which are also indigenous to the mountains of South Carolina and Georgia. *Cypripedium candidum* I have not seen. D.T.

Why should grapes hang on the vine until they are perfectly ripe? Because unripe bunches never get any riper after they are gathered.

RURAL ECONOMY.

(From the Library of Useful Knowledge.)

THE MOUNTAIN SHEPHERD'S MANUAL.

PART IV.

MANAGEMENT OF SHEEP.

(Concluded from page 167.)

SHEARING.

This usually begins with the month of June. There is no part of their business in which common shepherds appear so slovenly as in this. They usually mangle the fleece, and leave the sheep's backs covered with tufts of wool, to the great loss of their masters. The closer wool is clipped the better; and the way to effect this, and to save time, is to take but a small quantity into the shears. It would appear that some sheep which carry the finest fleeces do not naturally shed their wool annually; but ordinary sheep do, and ought to be shorn just before the wool begins to separate. Neatness in shearing can only be acquired by practice. The only rules which can be written are, use shears of a moderate size, and take up very little wool between them. Perhaps it would be an improvement that the shears should have blunt points, which may prevent many accidents, and render the operation easy and expeditious, by giving confidence to the shearer, that he is in no danger of wounding the sheep. After being shorn, sheep are much exposed to the tormenting attacks of flies and other vermin. They should be carefully examined, and all keds, ticks, &c. picked off. The following unguent should then be well rubbed on every part of the animal, with a currying brush. The roots of the horns may be anointed with the composition mentioned under the article Heat. [See p. 166. vol. xiv.]

Take of train oil,*	4 gallons, imperial.
of tar,	1 gallon, do
oil of turpentine,	1 pint, do

Dr. Parry recommends the shearing of fine woolled lambs about the beginning of August, having found that the hog fleeces grow finer, when the lamb fleeces have been removed. This practice promises considerable profit; an argument in favor of its adoption, of a very powerful kind. There does not appear to be any danger to be apprehended from the operation at that season of the year; and the wool will have time to grow to a sufficient length, for defending the animal from cold, rain, and snow, before winter sets in. The Doctor attended more than any person in Britain to the subject of wool-growing, and has shown very superior judgment in conducting his experiments. His recommendation goes no farther than to fine-woolled lambs; but those of other breeds may not probably be hurt, if these do not suffer any injury from the operation.

At the time of clipping, and indeed at all other times, when the flock is collected, every individual should be carefully examined; and any wounds or sores should be cleaned and dressed. The feet should be looked at, and every animal which has swelled, or ulcerated limbs, should be separated from the flock. These, and all others which seem to be sickly, should be kept at home until cured. Sheep ought to be collected and examined more frequently than at the usual stated times.

YOLK OF WOOL.

Until the experiments of that excellent chemist, Vauquelin, were published, the nature of yolk was unknown. He has found it to be an animal soap; and has observed that wool which has remained a long time in its own yolk, swelled up, split, and lost its strength; effects which take place also in too strong

* Seal oil is cheaper, and will probably be found to answer every purpose; and perhaps train oil may do alone, though the above ointment is more certain.

soapy water. "If," says M. Vauquelin, "the water of yolk causes wool to swell, and to split in this manner, it is not possible that this accident may often take place on the backs of the animals, especially during damp warm weather, or when they are shut up in folds, the litter of which is not often enough removed? It may not be impossible also that the acidity of yolk may occasion an irritation in their skin, and prove the cause of some of those maladies to which this organ is subject in these animals, and which must occur chiefly during damp warm weather; fortunately at this season they are occasionally exposed to rains which wash them, and carry off at least a part of this matter. In this respect I am inclined to adopt the opinion of those who think that the washing of sheep, during dry warm weather, may be useful to their health, and to the quality of the wool."

Although every respect is due to so good a chemist as M. Vauquelin, he could have formed his opinion of the effect of yolk on the skin of sheep only from analogy. As common soap is often used with success in cleansing the skin, and curing cutaneous disorders, analogy would lead us to expect that yolk, being of the same nature, would be beneficial instead of being injurious. And it is observed, that fine woolled sheep are less subject to diseases of the skin, than those which carry coarse fleeces; the former being well supplied with yolk and oil, and the latter having drier wool and little yolk. M. Vauquelin thinks yolk a naturally perspired matter; but it is more probably a combination of the salt in sweat, with the oil of wool.

PUTTING RAMS TO EWES.

The period during which the rams are to go with the ewes must be regulated by climate, and the quantity of spring food provided. It is of great importance that lambs should be dropped as early as possible, that they may not only be well nursed, but have time to get stout, and able to provide for themselves before the winter sets in. It is also of advantage to the ewes, that they may get into good condition before the rutting season.

To secure a full crop of lambs, a proper proportion of tups should be employed, viz. three to one hundred ewes where they are much scattered; but in inclosures two to a hundred are sufficient. They should be left together only so long, that no lambs may be dropped after the middle of May: unless in the case of rearing lambs for the butcher, when matters may be regulated according to circumstances.

Some people rub the breasts of the rams with some pigment, and remove every ewe which has any mark of it as having been served. This, however, is a practice which may occasion much disappointment, as tups often leap without accomplishing their purpose. Both tups and ewes should be in the best possible condition.

Dr. Parry mentions a mode of putting the ewes to the ram, which he believes to have been invented by Bakewell. At the intended season of copulation, the sexual appetite of the ewes is provoked by a ram with an apron. The ewes which are ready, being thus discovered, are brought in succession to the proper ram, which is kept in a yard, or small inclosure, and is allowed to serve each only once. In this manner a shearing ram, well fed, may be sufficient for one hundred or more ewes in one season. This method is certainly to be recommended where any one ram is greatly superior to others in make, and other desirable qualities, relatively to a large number of ewes.

The usual practice on high farms is to collect the ewes, and bring them to the low ground. This harasses the animals, and spoils the winter pasture. Yet, if they be altogether left at liberty, an inconvenient number of rams is required. At this period the shepherd must be constant in his attendance; and if the weather permit, rather keep the ewes on the higher ground, in detached bodies here and there, according to the nature of the ground and condition of

the pasture. Each body of ewes should have a proper proportion of rams along with it; and the shepherd must be careful not to allow the rams to leave the ewes to which they are appropriated. This mode of proceeding appears preferable to any other, and a smaller number of rams will suffice.

GREAT EWES

Should be moved about as little as possible; and kept from wet ground, dirty coats, and from every thing apt to injure their health, or disturb them. They are, when heavy, very liable to get cast and unable to rise, and when the shepherd discovers them in this situation, he should approach them with caution, and lift them gently. When a ewe has miscarried, it will be proper, if the weather be severe, or very cold, to bring her into a cot, and to keep her there till recovered; but during mild dry weather, she will be as well in the open air. When about to yean, the ewes should be on the smoothest and driest ground, both for their own convenience, and that of their lambs when dropt. Nurse ewes should have the best pasture.

LAMBS,

When observed to drop on a place where they cannot easily rise, should be lifted and placed on their feet, but otherwise they may be left to themselves. They may be docked when a day or two old, which saves much trouble when the disease called pinking attacks them. Docking makes them look very lively, as, while they are at their frisking time of life, their stumps have commonly a set or cock. The tail, which seems to be a useless and inconvenient appendage, (though some farmers are of a different opinion,) need not be left longer than three inches. But this operation in the males, if pinking does not happen, should be deferred until the time for castration. Ewes which have been docked are not liable to lose their lambs by their being entangled by the tail at birth, an accident which happens much more frequently than shepherds are aware of.

Lambs that are in health are always lively. Such as do not appear to be inclined to sport with their fellows, should be looked at, and also their dams. Ewes which appear unkind to their lambs should also be examined. In these cases something will in general be found to be wrong. Distorted, or imperfect lambs should be sold, or killed for home consumption.

When a lamb dies, it should be slowly dragged home, and the ewe will follow, when she may be put into a house where a twin lamb from another ewe may be given her; as soon as she has permitted it to suck, they may be sent out.

WEANING LAMBS.

Lambs should be allowed to suck during three months and a half, after which they may be taken up, and kept for a fortnight or three weeks at a distance from their dams; far enough from them to prevent their bleating being heard. In general, sale lambs are not taken up till they are removed by the purchaser, and are taken away at once. Some wean their lambs about the middle of July, deeming it of importance to accustom them to a change of food before the season arrives when braxy is likely to prevail. One seldom fails when advice is taken from nature; and therefore it may be time enough to remove the lambs early in August.

Many are in the habit of milking their ewes after the lambs are taken up. It may be proper to take the milk from them once or twice at the interval of two days; but it is a bad practice to milk them for a length of time, as this hinders their getting into good condition before the rutting season.

VERMIN ON LAMBS.

In the event that lambs become troubled by vermin before smearing time, the following directions of Dr. Parry will be found useful. The *hippobosca ovina*, or tick, is extremely injurious to sheep, by making

the animal bite and rub itself, so as not only to hurt the fleece, but to break the skin; in consequence of which the fly is apt to fix on the wool near the wounded part, and there deposit its eggs. This troublesome animal may be, in a great measure, destroyed by a solution of white arsenic in powder, made in boiling water, in the proportion of an ounce to a gallon, and poured, when cold, on the back of the sheep, and letting it diffuse itself down the skin on each side: in this method, however, several of the ticks escape by crawling to the extremities of the filaments. It will be still better to wash the lambs in the autumn, whether shorn or not, in a tub of a similar mixture. For this purpose, three pounds of the same arsenic in powder may be dissolved in six gallons of boiling water, and the solution mixed with forty gallons of cold water. The whole being then well stirred with a stick, the lambs may be plunged into it, great care being taken that they do not dip their heads, or taste the water. The liquor must be squeezed out of their fleeces back into the vessel, in order that it may not be wasted. It is scarcely needful to point out the poisonous quality of this liquid, and how important it is to keep the vessel locked up, and after the operations are performed, to clean it well; or, rather never to use it for any other purpose; and to throw the liquid which remains where not the smallest quantity of it can be drank by any creature whose life we value. Infusion of tobacco is equally effective, but not so economical.

DESTRUCTION OF FOXES AND BIRDS OF PREY.

Notwithstanding the very great losses which are annually experienced from the ravages of foxes, and of eagles and other birds, little ingenuity has been exerted to devise means of destroying them. It would be better for sheep-farmers to have fox-catchers than fox-hunters; and with very little trouble every one of their shepherds may be made much more useful in destroying these animals than the ordinary fox-hunters, and that without interfering with their attendance on the flocks—nothing more is required than to put the means into their power, and to hold out some reward proportioned to their success.

Various pit-falls might be contrived for taking foxes; but poison and stamps are the most effectual instruments of destruction when properly employed, both for foxes and birds of prey. Of the different poisons used for killing vermin, arsenic, nux vomica, and corrosive sublimate are the most powerful. Whoever chooses to adopt the following method of using them, will not probably have any cause for seeking a better one.

Take the carcase of a sheep that may have died, and having removed the skin, fasten it to the ground in some open place, with the back uppermost. Make cross and deep incisions into the fleshy parts, so that the squares made by the cuts do not exceed an inch and a half. Separate each piece nearly from the bone, but not altogether. Then make one or two punctures with a penknife, an inch and a half deep into each piece, and fill them nearly full of a mixture of equal parts of corrosive sublimate and arsenic, or with nux vomica, previously made into a paste with honey, or sugar, or treacle. Put all the squares into their natural position, and leave the place.

When a fox, or an eagle, or a parcel of ravens, or crows, attack the carcase, they will not find much difficulty in tearing off the flesh; and in the hurry of competition for the largest share, they will gobble up the poisoned pieces entire, and soon die. When a carcase is poisoned without cutting it as here directed, the poison is apt to be lost while the animals are employed in tearing off the flesh. By fastening the carcase to the ground, the pieces of flesh will come easily off.

Should the shepherd be anxious to catch the animals, let him fasten a good strong fish-hook of a moderate size in each piece of flesh, which must, in this case, be entirely separated from the bone, and need

not be poisoned. By fastening the hooks to the ribs of the carcase by means of strong wire, both foxes and eagles may be caught. The common pike hooks will answer very well, but a much smaller size will do for birds. Dogs must be kept out of the way; but if any strange car should be prowling about in search of a lamb, or a leg of mutton, and stumble upon the baits, he will meet the fate he deserves. It will be proper to select for the baits places where sheep do not feed, such as bare moss, or gravel, or some banks at the sides of streams.

If there be opportunity for instructing shepherds in the use of stamps, and if each have five or six of them, and a premium be offered, they will clear a district of vermin in no long time; and in proportion to the destruction of vermin, game, moles, and mice will multiply; and it is known that where these abound, foxes kill no sheep. Fox-hunters are a perfect nuisance, and literally oppress store-farmers, in many districts, with the maintenance of themselves and dogs, and they do not clear the country of vermin. It appears as if in some cases, the profession of a fox-hunter were adopted to cover that of a poacher. Shepherds have had long enough experience to justify the trial of some new plan. The writer strongly recommends the formation of associations of landlords and tenants, for the express purpose of encouraging the use of stamps and poison.

MISCELLANEOUS.

NEW DISCOVERY.—In the July number of the North American Review is the following curious fact, mentioned in a note to the article on Habits of Insects. "A learned foreigner with whom we lately conversed upon the subject, (ants) gave us the following account of his method of treating these insects. Whenever in his walks he meets with an ant-hill, he immediately approaches it with the end of his walking stick—The ants come out in great numbers, some to reconnoitre, and some for the mere pleasure of the excursion. When the stick is pretty well covered with them he draws it through his lips and secures them all. He describes the taste as cool and sourish, not unlike that of the plant sorrel." This is, really, a refinement on the art of licking molasses, which, we dare say, never has occurred to our sweet-toothed, treacle-tongued friends, who go about thrusting their sticks into every unbunged molasses cask they meet with. We advise them to try it, in case of a scarcity of their favorite liquor. The taste being sourish, it must make a delightful summer's beverage.

HEATING HOT-HOUSES BY HOT AIR, &c.

The conductor of the Gardener's Magazine states as follows: "Having had some experience in making attempts to heat hot-houses by hot air, we have been reduced to the opinion, that it is the worst of all modes of heating, on account of its liability to produce extremes, the difficulty of putting air in motion, and its dryness. If heat is to be conveyed from a kitchen fire to a green house, or to any part of a dwelling house, a going and returning pipe of water is by far the best mode. There can be no doubt that something is to be done in this way; and one thing which we should like to see adopted in every house, is the heating of a bath. A bath might be so contrived in the alcove of an ornamental green-house as to serve both as a bath and a stove. A revolution in the mode of heating both in domestic and hot-house economy, is in commencement, in consequence of the hot water system."

The difference between rising at 5 and 7 o'clock in the morning for the space of forty years, supposing a man to go to bed at the same hour at night, is nearly equivalent to an addition of ten years to a man's life.—*Doddridge*.

Prices Current in New York, August 3.

Beeswax, yellow 18 a 20. Cotton, New Orleans . 10 1/2 a 13; Upland, 8 1/2 a 11; Alabama, 9 a 11 1/2. Cotton Baggins, Hemp, yd. 14 1/2 a 17; Flax 13 a 14 1/2; Flax, American, 7 a 8. Flaxseed, 7 bush. clear ———, rough ———, 4 3/4 a ———; Flour, bbl. 6.00 a ———; Canal, 6.25 a 6.50; Balt. Hwd-st. 6.75 a ———; R.H.d. city mills — a —; Alexandria, 6.50 a 6.75; Fredericksburg — a —; Peters, 6.00 a 6.06; Rye Flour, 16.00 a ———; Indian Meal, per bbl. 3.31 a ——— per bbl; 16.00 a ———; Grain, Wheat, North, — a —; Vir. — a —; Rye, North, 80 a 82; Corn, Yel. Nor. 70 a 73; Barley, — a —; Oats, Sdn. and North, 44 a 53; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess 9.50 a 10.75; prime 5.67 1/2 a 6.00 cargo — a —; Lard, 7 1/2 a 9 1/4; Pork, mess, bbl. 12.75 a 14.00; prime 10.25 a 10.51.

BLOODED HORSES, BROOD MARES, AND COLTS FOR SALE,

At the residence of the late Alexander F. Rose, Esq. in Stafford County, Vir.

No. 1. ch. m. FLORA, fourteen years old, out of Miss Dance, by Ball's Florizel.

As the character of Florizel is so generally known, and ranks him among the most distinguished horses of his day, it is deemed only necessary to say, he was the sire.

No. 2. b. m. PET, ten years old, out of Miss Dance, by St. Tammany.

St. Tammany, the sire of Pet, was full brother to Florizel, and bred by Maj. John Roberts, of Culpeper, who purchased him a sucking colt, and, when only three days old, gave for him 100 guineas. When a colt he was put in training by Maj. Roberts, but an accident occurring, was withdrawn from the turf. In point of performance and appearance, his judicious owner esteemed him at that age as promising to be fully equal if not superior to his brother Florizel.

Miss Dance, the dam of these two mares, was by Roebuck, was bred by Col. Dance, of Cheshirefield, and is well known to have been one of the finest mares in Virginia. When twenty-three years old, and owned by Maj. Roberts, \$500 was offered for her and refused. The dam of Miss Dance was by Independence, grand dam by the imported horse Centinel, or Flinnap, g. grand dam by the imported horse old Janus. Roebuck was by the imported horse Sweeper, son of Mr. Beaver's Great Driver; his dam by the imported horse Bagazet, son of the Earl of March's old Bagazet, son of the Godolphin Arabian.

These two mares are now in foal by Carolinian, a distinguished son of Sir Archy; and out of them are the following colts:

1. a ch. f. three years old, out of Flora, by Lafayette.
2. a ch. f. two years old, out of Flora, by Contention.
3. a b. f. two years old, out of Pet, by Contention.
4. an iron grey, one year old, out of Pet, by W. R. Johnson's Medley.

No. 3. ch. m. Virago, eight years old, by Wildair, dam by the imported horse Hamilton, grand dam by Spread Eagle. Wildair was by Ajax, and bred by Col. R. Walker, of Anherst, his dam by Knowsley, grand dam by Highflyer, g. grand dam by old Wildair, g. g. grand dam by Asa, g. g. g. grand dam by Aristotle, g. g. g. g. grand dam the celebrated running mare Hecstord.

Out of Virago, is a fine two year old filly, by Contention, and she has now by her side a beautiful bay filly, by Governor Barbour's imported horse Young Truffle, and is now in foal by Carolinian.

No. 4. ch. m. Nettle, seven years old, full sister to Virago, has now by her side a fine colt, by Young Truffle, and is now in foal by Carolinian.

No. 5. ch. m. Cora, six years old, full sister to Virago and Nettle, and in foal by Carolinian.

Out of Cora, is a beautiful ch. f. one year old, by Contention.

Application to be made to the Executors of Alexander F. Rose, deceased, Fredericksburg, Virginia.

Aug. 10. 2ms

ORCHARD GRASS SEED.

A small lot of Orchard Grass Seed, of present year's growth, just received and for sale by

Aug. 10. SINCLAIR & MOORE.

CABBAGE SEED.

Received by the late arrivals from England, a supply of the various kinds of first rate Cabbage Seeds. To those who in former years have bought seeds of me, I need only say, that these were raised by the same gentleman who has supplied those seeds that gave general satisfaction to my customers for so many years—to those unacquainted with them, I would observe, that they are exceedingly well adapted to this climate for a spring crop. They produce hard white heads by the beginning of May, and are of a very fine flavor and most handsome forms. These seeds are raised by one of the first Horticulturists, in the neighborhood of London, and are of exceedingly approved kinds and quality.

The price of the above seeds is 37 1/2 cents per ounce, or \$4 per pound. The ounce will yield five thousand fine Cabbages. The time to sow these seeds is from the 8th to the 25th of September. Printed directions respecting the proper soil, treatment, and cultivation of these Cabbages will be given gratis with each parcel of seed. Orders, with remittances, from all parts of the United States, (postage paid) will be promptly attended to, if directed to Samuel Ault, No. 78 Bridge street, second door from the town-clock, old town, Baltimore, also Cauliflower, Broccoli, Radish, and a general assortment of GARDEN SEEDS, warranted first quality.

Aug. 10. 1t

SAMUEL AULT.

ORCHARD GRASS SEED WANTED.

The subscriber wishes to purchase a few hundred bushels of PRIME ORCHARD GRASS SEED, that is clear from noxious seeds, for which cash will be given.

J. S. EASTMAN,

Pratt street, near Hanover.

Who has in store RUTA BAGA and TURNIP SEEDS, and a general assortment of GARDEN SEEDS, thirty-four pounds EARLY YORK CABBAGE SEED, just received from London.

Also, his general assortment of AGRICULTURAL IMPLEMENTS, such as Wheat Fans, Corn and Tobacco Cultivators, Corn Shellers, Harrows, his Patent Cyindrical Straw Cutters, and common Dutch Cutting Boxes, &c. &c. Wrought and Cast Share PLOUGHS, of all sizes, from a small six inch Seed Plough, to the largest Three Horse Plough, all of which are made of the best materials and warranted, and with his very reduced prices, he hopes to merit a liberal patronage.

J.S.E.

STRAWBERRY PLANTS, TURNIP SEED, &c.

The subscribers are now prepared to deliver to order, Strawberry Plants of the most approved kinds, which will be packed so as to warrant their safe arrival at any part of the United States. The months of August and September being the most favorable season for transplanting, it will be well for those who wish to purchase, to give their orders early, and by care in planting, with an occasional watering, fine plants may be produced.

The kinds now on hand are, large Early Scarlet; large dark old Pine; French red Alpine and Faulkner's late Scarlet, at 25 cents per dozen, or \$1 per hundred; large dark musk Hautboys; new black musk do; white monthly; scarlet Lima; Dawnton, Wilmot's superb and Roseberry, at 50 cents per dozen, or \$2 per hundred.

Our nursery is rapidly progressing towards the point destined at its commencement. We have now closely planted about 13 acres with fruit and ornamental trees, shrubs and vines.

TURNIP SEED of various kinds and many other fresh seeds, for summer and fall planting.

SINCLAIR & MOORE.

Aug. 10. Grant street, near Pratt-st. wharf.

A JACK AND JENNET FOR SALE.

A very fine young JACK, got by the fine Mediterranean Jack, Don Carlos, and now between four and five years old, is offered for sale. Price \$250.

Also, a very fine and heavily formed JENNET, full sister to the above Jack, a little upwards of two years old, 3 feet 7 inches in height, very docile. Price \$50.

The above animals will be sold together or separately, if immediate application be made to

Aug. 3.

I. I. HITCHCOCK,
Office Am. Farmer.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—A slight decline will be noticed in the price of wheat; corn has advanced a cent or two. Flour remains about the same as last week. The wagon price of Howard street flour is \$6.25. In other articles we find nothing worthy of remark.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 5.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 5.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a —.—Happanhook, 0.00 a 4.00.—Kentucky, 3.50 a 8.70. The inspections of the week comprise 278 hhd. Md.; and 107 hhd. Ohio—total 385 hhd.

FLOUR—best white wheat family, \$7.25 a 7.50; super Howard-street, 6.57 1/2 a 6.50; city mills, 6.37 1/2 a 6.50; Susq. — a —; Corn Meal bbl. 1.50; Grain, best red wheat, 1.12 a 1.16; white do 1.20 a 1.25; Susq. — a —; Corn, white, 70 a —; yellow 72 a —; Rta. 60 a 63 —OATS, 35 a 37.—BEANS, 75 a 80.—PEAS, 65 a 70.—CLOVER-SEED — a —TIMOTHY, — a —ORCHARD GRASS — a —Tall Meadow Oat Grass — a —Herd's, 75 a 87 1/2.—Lucerne — a 37 1/2 lb.—BARLEY, FLAXSEED 1.50 a 1.62.—COTTON, Va., 80 1/2.—Louis. 9 1/2.—Alab. 8 a 11.—Tenn. 8 a —, N. Car. 8 a 10.—Upland 8 a 11.—WHISKY, hhd. 1st p. 31 1/2 a 32; in hds. 33 1/2 a 34.—WOOL, Washed, Prime or Saxony Fleeced 50 a 60; American Full Blood, 45 a 50; three quarters do. 40 a 45; half do. 35 a 40; quarter do. 30 a 35; common 25 a 30. Unwashed, Prime or Saxony Fleeced, 30 a 35; American Full Blood, 27 a 30; three quarters do. 25 a 27; half do. 22 a 25; quarter do. 20 a 22; common, 17 a 20. HEMP, Russian, \$220 a —; Country, dew-rotted, — a 7c. lb. water-rotted, 7a 8c.—Feathers, 36 a 37; Plaster Paris, per ton, 4.25 a —, ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Susq. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.00 a 5.75.—Oak wood, 3.00 a 3.25.—Hickory, 4.50 a —.

CONTENTS OF THIS NUMBER.

Editorial: Isabella Grape; Cork Tree, Letter from Gen. T. M. Forman—Communication from Samuel Peat on the Rose or Rare Tree of Persia—Whitewash—The King Bird—Inversion of Trees—Diseases in Pear Trees—Calves—Bottled Gooseberries—Horse-chestnuts—An Address to the Essex Agricultural Society, delivered at Andover, Mass. 29th September, 1831, at their Annual Cattle Show, by Henry Colman.—Report of the Committee of the Massachusetts Agricultural Society on the Best Cultivated Farms—Letter from a Correspondent on the study of Botany, and recommending the attention of Botanists to our Native Ornamental Plants—Varieties of the Cyripedium—The Mountain Shepherd's Manual, part iv; Management of Sheep concluded; Shearing, Yolk of Wool, Putting Rams to Ewes, Great Ewes, Lambs, Weaning Lambs, Vermin on Lambs, Destruction of Foxes and Birds of Prey—New discovery concerning Ants—Heating Hot-houses by Hot Air, &c.—Prices of Current Country Produce in the New York and Baltimore Markets—Advertisements.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, basement of Barnum's City hotel), by I. IRVINE HITCHCOCK, as the following

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged by the year, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of this subscription that shall be current at the time of receiving each order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of back notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and requesting a return of money.
7. All Postmasters are requested to act as agents for the Farmer, they are authorized to retain \$1 for each new subscriber, and 10 per cent. on all other collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, AUGUST 17, 1832.

WHITE TREE ONION AND POTATOE ONION.—These are very superior varieties, and will probably become the principal ones cultivated. The white tree onion produces a fine large bulb, of excellent flavor, and at the same time a cluster of small sets on the top of the stalk for the next year's planting. Thus rendering the sowing of seed unnecessary. From about six square rods, we this summer gathered eight bushels of fine large onions, and upwards of two bushels of sets for next year's planting. These onions keep remarkably well during winter, as ours were exposed to the whole of last winter's frost in a cold garret, and where they were frozen as hard as stones, without injury. When we consider the saving of time and trouble in raising sets from seed, this variety will be an acquisition.

The *potatoe onion* is also a most excellent variety, and superior to all others except the white tree. Its flavor is very mild; it grows to a good size, and also saves the time and labor of raising sets from seed.—The onions are set in the ground in the fall or very early in spring, in the same manner as common onions are planted for seed. In a short time the onion separates into from five to fifteen small bulbs, nearly all of which grow to good sized onions in a few weeks—generally growing under ground, in the manner somewhat of Irish potatoes, whence the name.

The potatoe and white tree onions are fit for use from four to eight weeks earlier than any other kind.

COTTAGE FLOWER GARDEN.

GOLDEN ETERNAL FLOWER—*Xeranthemum lucidum*, now in bloom.—This is a beautiful flower, and well adapted for urns and vases, as it retains its freshness and brilliancy for many years after it is gathered. Vases filled with this, the yellow and scarlet cockscombs, and white and purple globe amaranthus, form very beautiful mantle ornaments; as neither of these flowers ever fade.

THUNBERGIA ALATA—*Winged Thunbergia*.—This is a beautiful flowering plant, not yet known in common flower gardens. It has heretofore been kept as a green house plant and as such is highly esteemed.—We last fall procured a few seeds from our friend Prince at Flushing, and planted them in the garden with others. They have succeeded as well as any other plant, and have been in constant flower for six weeks past. It is a twiner, resembling in its habits and appearance the common morning glory. The flower is a beautiful yellow, with a deep velvet purple center. It is a perennial green house plant, but is well adapted for an annual garden plant, as it flowers and produces seed in a few weeks.

DAHLIAS.—Several varieties of these splendid flowers now in bloom. The *Lady Washington* is a dwarf, grows about three feet high, flowers brilliant deep lilac, nearly double, and four inches diameter. *Dark crimson velvet*, a superb variety; flowers very double, four inches diameter, and abundant flowerer. *Large single deep crimson*; a splendid variety. Large double purple, semidouble purple, semidouble scarlet, orange scarlet, semidouble violet, superb violet, large double buff, all splendid. Some of the finest varieties have not yet bloomed.—Such as the pure double white, George the IV. &c. We have this year succeeded in blooming our dahlias in great perfection, by reversing the directions of English gardeners. Instead of planting them in poor sandy soil as they direct, we made a deep trench and filled it with the richest vegetable mould we could get, mixed with a small portion of sand and old well rotted stable manure; and in this planted the roots, filling the trench only within six inches of the surface of the ground,

that it might collect rain water. This plan succeeded, notwithstanding the long and parching drought of the present season, without watering by artificial means.

(From the Southern Agriculturist.)

THE CULTURE OF RHUBARB

Baltimore, April 14, 1832.

Dear Sir,—The Rhubarb is the simplest thing possible to cultivate. Nature informs us, by example, that the crown of the root should be set about one inch under ground—this being its situation, (after the foliage disappears) in winter. For culinary purposes, when it is cultivated for the petioles, or leaf-stalks, and of course abundance of them and large ones too, are required, it should have a very rich soil, neither high nor low ground, but a medium site, somewhat shady. If made rich with stable-manure well rotted, it is best. Whenever the leaf-stalks are large enough, say from eight inches to a foot or more long, they may be cut for use. Cut them close to the ground, strip off the leaf, and the thin skin from the stem, cut the stem into pieces, half an inch long, and stew them as you would gooseberries for tarts.—They require a large quantity of sugar, (about their weight,) before they are stewed—it is inconceivable how much the acid and flavor are improved by stewing. When stewed they are to be made into tarts in the same manner that other green fruits are.

Mrs. Smith always gathers all the leaf stalks not wanted for present use, prepares and puts them up as a conserve for winter use, for which purpose the rhubarb has no equal. After the leaf-stalks are prepared, (peeled and cut) she makes a syrup of as much sugar, (good brown) by weight as she has rhubarb, and gently stews the rhubarb in it till done; when cool it is put away in stone or glass jars for use.

In cutting the leaf-stalks, take only the outer large leaves, leaving the young and small ones on the plant. I never force or blanch rhubarb, it injures the flavor materially; or at least it spoils it for my use.

I ought to have said something of the culture of the plant. After it is set in rich ground nothing more is necessary to be done. The plant being set two feet apart each way will smother the weeds. It would be well, however, to spade the ground occasionally, to secure the absorption of moisture. The plants last many years, and are capable of being divided every year if desired; in which case, split the roots so as to leave a bud on each division.

This plant is extremely difficult to raise from seed, being very hard to vegetate. It must be sown in February, and will require frequent watering, if the weather be dry, in March and April. The plants may be transplanted into their allotted place in the fall or the next spring, and will bear cutting the second year, that is the same season they are transplanted. The plants from which seed is expected must be set in a soil more dry and sandy than those for culinary purposes, as those in the rich soil seldom seed well.

However highly I estimate the rhubarb for culinary purposes, it has a value far above all price in another respect, to me. I have found the tarts and the conserve made of it a sovereign remedy for *cholera infantum*, or summer complaint in children. My little daughter passed the summer of her second year in that afflicting disease, barely having life left at the approach of winter. During winter she recovered a little strength, but we were obliged to deny her all fruits and vegetables. With the commencement of warm weather in the next year her complaint returned with redoubled violence and inveteracy, so that on the 5th of July, all hope of saving her had been abandoned. Walking in my garden on the morning of that day, after having just denied her some fruit which the other children were allowed to eat freely, and feeling much pain on account of the apparent cur-

elty which it was my duty to exercise in denying her the fruit, it occurred to me that I would have a tart made of the rhubarb for her. (Our supply had been so small that we had seldom used it in the family previously.) I immediately cut some leaves and caused the tart to be made. She ate a small piece of it at 12 o'clock, another at 2, and at 3 o'clock an evident change was perceptible in her stools, of which she had previously had from six to twenty a day.—After 3 o'clock she had no stool till next morning, when it was natural; the first natural one she had had for many months. From that time to this, she has been free from the complaint; or rather, whenever it has occurred, a single piece of the tart or a spoonful of the conserve, has been sufficient to arrest it. We have since used it with all of our children, and given it to our neighbors, without a single failure. All children are fond of it. We give the conserve to them on a piece of bread or in any other way. I have used it myself in similar complaints with success—it is a very grateful relish in such cases. Immediately on the discovery of this valuable property in the rhubarb, I sat about making provision for a full supply of plants for my family, and hope never again to be without it. I have also made such arrangements as will enable me to supply roots to those who may want them next fall. They can be sent to any distance with facility. I am, sir, yours, respectfully.

GIDEON B. SMITH.

We strongly recommend the culture of this plant to our readers—there is little or no difficulty in raising it. Our success this year has been more complete than the last, and we propose giving an account of the experiment at the close of the season.

[Ed. So. Agr.]

FOREIGN MARKETS.

LONDON, JUNE 29.

Tobacco.—There have been several sales for Ireland, leaf at 4½d and strips at 5½d. The home trade is very brisk, the low prices having attracted the attention of the trade. For export there are no sales of any extent reported.

Cotton.—The cotton market has been very steady; the accounts this morning from Manchester and Liverpool are very favorable, both for raw cotton and also for manufactured goods. The purchases here this week consist of 500 bawls, 5½d a 6 1-3d; 20 Bengal, 4 7-8d, 11½d do. Madras, 4 8-9d a 4 7-8d; 120 Surat 4½d a 4½d; 60 public sale, 4 7-8d; 2730 do. public sale, 4½d a 5½d; 3500 Surat, public sale, 4d a 5½d.

Rice.—There is little alteration.

CORN EXCHANGE—LONDON, JUNE 29.

We have had some few fresh arrivals of Wheat this morning from Essex and Suffolk: really fine samples were taken off readily at full as good prices as were obtained on Monday last; but the ordinary qualities are particularly dull sale, and if any thing rather lower. Oats are also extremely difficult sale, at somewhat worse prices. In all other descriptions of spring corn we have no variation.

LIVERPOOL, JUNE 30.

There has been a steady demand during the whole of the week for all descriptions of cotton, and the sales amount to 23,250 bales; the better qualities of American have advanced 1-3d, and sea islands 4d to 4d higher. The sales include of American 6800 Up-lands at 6d a 7½d 30 7½d; 2930 Orleans 6 1-8d a 8½d; 3000 Alabama 5 7-8d a 6 6½d—50 a 5 5-8d; 1130 Sea Islands 10 3-4 a 15d; 170 stained do. 5 3-4 a 9½d. Imports 21,505.

Owing to fine weather, the grain market has been dull, and prices have declined fully 3d per 70 lbs. for wheat, and 2d per 45 lbs. for oats. Wheat and Flour in bond are without alteration in prices, but there is little inquiry for either.

In hemp and flax we have no transactions to report.

AGRICULTURE.

AN ADDRESS

To the Essex Agricultural Society, delivered at Andover, Mass. 29th Sept. 1831, at their Annual Cattle Show. By HENRY COLMAN.

(Concluded from page 171.)

Next let us compare the value of hay with other crops for the feeding of stock. An acre of hay yields one ton and a half of vegetable food: an acre of carrots or Swedish turnips will yield from ten to twenty tons; say fifteen tons, which is by no means an exaggerated estimate. Crops at the rate of twenty-five tons of carrots, and twenty-two of Swedish turnips to the acre have been raised among us, and much larger crops than these are upon record.

By an experiment it has been ascertained that three working horses fifteen and a half hands high consumed at the rate of two hundred and twenty-four pounds of hay per week, or five tons one thousand five hundred and forty-eight pounds of hay per year, besides twelve gallons of oats each per week or seventy-eight bushels by the year. An unworked horse consumed at the rate of four and one quarter tons of hay by the year. The produce therefore of nearly six acres of land in this mode of feeding is necessary to support a working horse by the year; but half an acre of carrots at six hundred bushels to the acre with the addition of chopped straw, will, while the season for their use lasts, do it as well if not better. These things do not admit of doubt; they have been subjects of accurate trial. It is believed that the value of a bushel of Indian corn in straw and meal will keep a healthy horse in good condition for work a week. An acre of Indian corn which yields sixty bushels, will be ample for the support of a horse through the year. Now it is for the farmer to consider, whether it be better to maintain his horse upon the produce of half an acre of carrots, which can be cultivated at an expense not greatly exceeding the expense of half an acre of potatoes, or upon half an acre of ruta бага, which can be raised as a second crop at a less expense than potatoes, or upon the grain produce of an acre of Indian corn, or, on the other hand, upon the produce of six acres in hay and grain; for six acres will hardly do more than to yield nearly six tons of hay and seventy-eight bushels of oats. The same economy might be as successfully introduced into the feeding of our neat cattle. I have known a yoke of oxen engaged in the ordinary labor of a farm, to be kept three months in winter in good working condition upon one bushel of Indian meal and about twenty-five cents worth of straw per week; and my own team has never been in better condition both for appearance and labor than when fed wholly upon a liberal supply of ruta бага and the coarsest fodder. But it has been ascertained by accurate measurement that an unworked ox put up on good old hay consumed at the rate of thirty-three pounds per day or two hundred and thirty-one pounds per week, which is upwards of six tons per year of two thousand pounds to the ton. There must then be a great saving between feeding in the way referred to or upon English hay; and English hay alone in any quantity without grain or vegetables is not sufficient for any hard working animal.

We come next to the great article of produce, the Prince of Vegetables, the bread fruit of our climate, Indian Corn. In an agricultural view that country is signally blessed, which has the capacity of producing Indian Corn. There is no crop of more simple and easy cultivation. None is subject to fewer casualties; only in a single instance for many years (the year 1816,) has the crop among us been generally cut off. There is none that yields a greater quantity of feed, or of better feed to man and beast; which will make more flesh; which returns so much to the land;

and bears more frequent plating upon the same ground.

Crops, exceeding one hundred bushels to an acre, have been raised in this county. No farmer ought to be satisfied with a less crop than fifty bushels to the acre; and, while pork is worth six cents a pound he may estimate his corn as equal to seventy cents per bushel. Fifty bushels to the acre then may be safely valued at thirty-five dollars; and the fodder from an acre of corn if well saved will do much towards paying for the labor of cultivation. It will do more when carefully managed, than any other crop, towards supplying its own manure. I do not speak at random. Mr. W. P. Livingston, of New York, gives it as his opinion that the fodder will pay for the cultivation. Lora-n of Pennsylvania, obtained from an acre yielding sixty-six bushels to the acre, (and the ground was planted with potatoes as well as corn,) of

	Ton.	Cwt.	lbs.
Blades, husks and tops,	1	6	13
Stalks or butts,	1	7	00
Total	2	13	13 gross*

Mr. Phillips, an intelligent farmer of Pennsylvania, says, "that he is fully of opinion, that a field of good corn will yield as much fodder and contain as much nutriment as a field of the best clover of equal size."

The saving of corn fodder ought to be much more matter of attention than it is. It is a slovenly and wasteful practice to leave our corn butts in the field to be browsed by cattle and so to serve no use as manure, rather than to carefully gather and feed them out in winter in our barn yards, where what is not consumed by the stock, will go at once to increase the compost heap.

Of potatoes as a profitable crop I have great distrust. Beyond what is wanted for marketing or family use they afford small returns. One hundred and fifty bushels to the acre is more than an average crop throughout this county. These can hardly be rated on the farm at more than one shilling per bushel, which would be equal to twenty-five dollars, out of which the expense of four or five dollars for seed is to be deducted. For feeding beef stock it is doubtful if they should be rated so high. I have made no experiments with them this way upon which I can rely. When steamed they are represented as excellent feed for horses. Many persons speak well of them in fattening beef; but the best grazing counties in the state do not deem them a very profitable object of culture. "To mix potatoes in the food of fattening pigs," says an English agriculturist, "is deceptive, deteriorating the pork in exact proportion. Hence the Irish pork and bacon are generally inferior to the English, and the market price is in proportion. The inferiority was some years since stated at three ounces per pound or upwards by an eminent dealer in Irish provisions." But after deducting the expense of seed, the labor of manuring, planting, hoeing and gathering which is always a troublesome business, the profits of such cultivation must be very small. They likewise return little to the ground, for the tops of potatoes can scarcely be considered as of any value.

Carrots are a more profitable crop than potatoes.—This crop is of great value. "A bushel of carrots, for any stock, is equal to two-thirds of a bushel of potatoes, or of equal value weight for weight." It is little more expensive to raise six hundred bushels of carrots than two hundred of potatoes. Again, land which will produce fifty bushels of carrots to the acre, will produce six hundred bushels of corn, or twelve for one; and a New York farmer by the name of Waring, says that two and a half or at most three bushels of carrots will make as much beef, pork, mutton, milk, or horse flesh as one bushel of corn.—

* Loran's Husbandry, p. 201.

† N. Y. Memoirs, vol. III, p. 374.

‡ British Farmer's Magazine, vol. I, p. 594.

This seems to be an extravagant estimate; but if they will do half as much the advantage is greatly in favor of carrots.

Of the value of English turnips I shall not say much. They are very easily raised. Cattle and sheep are very fond of them, and will thrive upon them. In Great Britain many of their cattle are entirely fattened upon them, and English beef is celebrated all over the world. Upwards of eleven hundred bushels have been raised to an acre by Mr. Featherstonough of New York, and premiums have been given in Scotland to crops of seventy-five and ninety-six tons to the Scotch acre, which is one fourth larger than ours. As a second crop they may be raised to great advantage.

The Ruta Baga is a highly valuable crop. I have raised nine hundred bushels to the acre at a less expense than the same extent of potatoes could be cultivated, and four hundred and six hundred bushels have been produced on sward land from which a crop of grass has been taken the same season. A crop of four hundred bushels to the acre was raised on a grass ley and sowed on the 18th of July; but I am inclined to believe that the best mode of culture is to raise the plants in a seed bed and transplant them either with a short stick or by running a single furrow at the distance at which it is desired the rows should be made, dropping the plants on the land side of the furrow and letting a man follow to set them up and draw the earth to them with a hoe. Where they are transplanted a much longer season is obtained, as this need not take place until the last of July or even as late as the middle of August.

They are said to be excellent food for horses; and, when steamed, valuable for swine. I know them to be of great value for oxen and all dry stock; and for cows, abating an unpleasant taste which they give to the milk; and both carrots and ruta бага may be applied with great advantage to the feeding of sheep intended for the butcher. The manure which is made from sheep or cattle fed on turnips, with their yards well littered, from the extraordinary secretions of urine which turnips produce, is of a superior quality. The value of carrots for milch cows is well understood, not increasing the quantity of milk so much as potatoes; but giving it richness and sweetness, and contributing to keep the animals in the best condition.

It is my conviction therefore that on the extended cultivation of Indian Corn, Carrots and Ruta Baga, the Essex farmer may lay the foundation of a profitable husbandry. Of the cultivation of other crops and particularly of the smaller grains, wheat, barley and rye, I have not time to speak. In respect to wheat, much of our land is unfavorable, probably from a deficiency of lime; and this might be remedied by the application of lime to the soil either in a crude or composite state, as it exists for example in the spent leaches of soap boilers. The prejudice generally entertained that the vicinity of barberry bushes will occasion a blast of the grain, deserves farther inquiry; as I have for the two last years had sound crops of wheat directly in their neighborhood.

2. I propose next to speak of the application of the produce of the farm.

The raising of Live Stock cannot be pursued to any great extent by the Essex farmer. The scantiness of our pastures forbids it. Yet in a small degree by producing large crops of succulent vegetables, by a careful saving of corn fodder and straw, and by sending his young animals to another part of the country for pasture in summer, he may at least keep his stock good and often go beyond this with advantage.—Every farmer should have young stock sufficient to consume his coarse fodder; and he can often purchase stock brought from the interior at a low rate, the growth of which in this way will be more than an equivalent for their feed.

The Dairy is another object with the Essex farmer. Butter and cheese always find a ready market in the

towns and villages, which are accessible to every part of the country. It should be an object with him to extend this part of his husbandry as much as possible, and to obtain a milking stock of the best qualities. This requires that his animals should be well kept. The produce of a cow in summer will be materially affected by the manner in which she has been kept in the winter; and our scanty pastures may be greatly assisted by clearing up, draining, and the application of ashes to the surface; besides which we should find great advantage in the cultivation of green summer feed for our cows, such as Indian corn sown for this purpose and especially Lucerne, which bids fair to become a valuable auxiliary to our dairy husbandry. Essex county has the honor of having possessed some cows, whose produce has scarcely been exceeded; but we are certainly deficient in attention to the good quality of our milking stock, and from ignorance or indolence keep animals which are comparatively worthless. In a comparison of the quality of the milk of two of my own cows, in order to ascertain the proportion of cream given by each, I found in milk taken on the same day and in the same quantity and allowed to stand in the same place for the same length of time, an extraordinary difference, the milk of one giving only two-tenths of an inch of cream and the other giving an inch and three-tenths; and yet this inferior cow was most promising in appearance, and the most expensive cow in the yard.

Essex county has one small dairy, which presents a fine example of successful management in this branch of husbandry, not exceeded by any within my inquiries. I refer to the dairy of Mr. Jesse Curtis of Marblehead, all of native cows, and most of them raised by himself.

In 1824 from 61* cows he made 732 lbs. of butter.

1825	7	"	"	8	6	"
1826	6	"	"	7	45	"
1827	63	"	"	8	36	"
1828	8	"	"	12	72	"
1829	7	"	"	11	75	"
1830	6	"	"	10	90	"13oz."

which last yield is at the rate of one hundred and eighty-one pounds to a cow, and this without any extra feed.

The next mode of consuming your produce on the place is by stall feeding sheep, to be put up in autumn and turned off to the butcher in the spring.—My own experiments in this way, though conducted under many disadvantages, have been favorable to its continuance, since it has furnished a home market for my produce at the current rates, without the trouble and loss of carrying it from the farm; and the manure has been an equivalent for the attendance. To stock of this description, carrots, ruta baga and common turnips are a valuable feed, and for this purpose may be raised to advantage. Mutton fattened in the immediate vicinity certainly deserves and will command the preference with the butchers over that which is driven a great distance, or which is brought down in a half frozen state.

Pork is another article, which even at the present low prices, may, I believe, be fattened without loss, and perhaps to a very small profit; at least it furnishes a market for our produce without the trouble and expense of carrying it from the farm, and leaves a valuable manure for its benefit. I need not say any thing of the important differences in the breeds of swine. Some will scarcely repay the trouble of attendance, while from an improved stock I have had a gain for weeks and months together of two pounds, two and a quarter pounds, three pounds and three and a half pounds per day. Cooked food for swine is greatly to be preferred to raw food; Indian meal is more fattening than any other feed; the growth of the first year is a much greater gain than that of any subsequent period; and I believe it is best to keep them

from the first not merely in a growing but in as fat a state as we can get them.

In regard to the fattening of beef animals, my experience has been little, and that by no means encouraging. In a single experiment where an exact account was kept, it was attended with a great loss, as in general the profits in such cases go to the butcher. I have wished to make further trials; and I would express the hope that a society, distinguished for the judicious selection of its subjects of premium, will deem it of particular importance to encourage various and exact experiments, to determine what may be profitably done in this way, and to devise other successful modes of consuming the produce of a farm so that what is carried away may not impoverish it.

Next to the importance of cooking feed for swine, and I believe it would be found of almost equal advantage for all other animals, is the cutting up of all long feed for neat cattle and horses. My own experience has been considerable in this way, and always strongly in its favor; so has that of many other persons within my knowledge; but I shall refer you only to the testimony of a Mr. Phillips of Pennsylvania. He says, "I have fixed a moveable shaft upon the top of my cider mill, on which is a large drum; and with another small drum connected by a strap, the chaff cutter is worked by one horse; the fodder is cut of any size from one quarter to an inch long, and with ease from 120 to 140 bushels an hour are turned out, one boy only attending the machine. Since I have used fodder thus prepared, I have kept from twenty-six to thirty-five head of cattle, besides horses and sheep, during the winter, and have used at least ten loads of hay less than when I kept only twelve.—This spring (1824) my cattle were in better order than usual."²

I owe an apology to the society for detailing my own experience, and so often speaking in the first person. It would be affectation in me to pretend ignorance of an art in which I have been more or less interested and occupied for many years, and with a strong feeling of its great and essential importance to human comfort and good morals; but I am not unaware that I stand in the presence of many of much more experience and knowledge than myself; and in speaking of what I have done, I am prompted by a feeling of the duty of every farmer to communicate to his brethren the results of his own experiments, whether favorable or otherwise, as the best means of advancing an art, where facts and experience are the safest instructors.

There were other topics upon which it was my wish to have remarked; but I fear I have already trespassed too much upon your patience. Agriculture cannot be looked to as a source of wealth; but money is far from being one of the greatest goods in life. Its profits under the most favored circumstances must be small, and can only be secured by hard labor, persevering industry, and extreme frugality. Yet the situation of every sober and diligent farmer in our country may always be one of substantial independence. A comfortable dwelling, a sufficiency of wholesome food and good clothing, the means of rearing a family, the opportunity of procuring the best education for his children, the power of gradually improving his property and condition, and of accumulating some humble resources against the time of old age and sickness, and above all the quiet and comforts and endearments of home, and the perfect enjoyment of his religious rights and privileges, are blessings as much within the reach of the industrious and honest farmer of New England, as of the richest man in the world, and are sufficient to satisfy any but an inordinate avarice and ambition. The farmer's gains

* Memoirs of N. Y. Agriculture, vol. iii. p. 374.—I have myself tried various cutting machines; where much work is to be done, I can strongly recommend the machines invented and patented by Jonathan Eastman of Baltimore, which are now made in Boston, as the best within my knowledge.

are honest gains. What he gets, he gets not at the expense of suffering or loss to others, but as the lawful fruits of his own industry and toil. He above all others should be a religious man; for the fruits which he gathers seem to be poured at once into his lap from the divine bounty; and the various domestic animals which depend on his care and are to be daily fed from his hand, remind him that he is the almoner of a merciful and kind Providence. Every operation of husbandry, with all its beautiful and miraculous results, admonishes the thoughtful mind of that unseen but omnipresent and beneficent agency on which all creatures subsist; and which is every where diffusing life and happiness and good. The flowers of the field in their splendor and beauty, the birds of the air, who, though they have neither storehouse nor barn, are fed by a paternal kindness, the invigorating sunshine and the fertilizing rain, the fields glistening with the enriching dew, or yellow with the ripened harvest, and the cattle upon a thousand hills, all speak to the husbandman, of God, in tones which find their way at once to the feeling and pious bosom. Let his heart and life pour forth a grateful response. In the exercise of an honest industry, who can feel a juster claim to the peaceful enjoyment of its bountiful returns!—The possession of these gifts of the divine goodness should remind him of his duty to those whom it gives him the power and privilege to succor and relieve. When the peace and contentment and comfort which reign in his habitation, are thus enjoyed in charity to his fellow men and in humble piety to God, this earth presents no condition more privileged and enviable.

(From the Genesee Farmer.)

SUMMER FALLOW, &c.

MR. GOODSALL.—As you have expressed a wish that some of your readers would give you their opinion on the subject of summer fallowing, I have concluded to undertake it for one, and although I find it difficult to express my meaning in writing, not being much accustomed to it, I will do it as well as I am capable. I have been in the habit for many years of sowing wheat after wheat, and after oats, corn, peas, and sometimes barley, although my land, I think, is rather too stiff a soil for barley; I have likewise summer fallowed some almost every year, until within a year or two; I have discontinued that practice entirely, unless it should become necessary on account of its becoming foul. I am of the opinion that it does not enrich land to summer fallow it, nor impoverish it to raise a crop on it every year, if there can be a sufficient quantity of any vegetable substance ploughed in to keep the land loose.

I have practised turning in green sward in the spring, (sometimes manuring it first) for oats, corn and peas, and have been successful in raising as good crops as I have in any other way. I sow wheat more or less every year after some of those crops, and always sow some after wheat, which I have done for several years in succession on the same, and wheat has succeeded generally quite as well, I think, as when sowed on a summer fallow.

I have been in the habit for several years of keeping an account of the expense of cultivating my land, each lot by itself; and likewise of the number of bushels of grain raised on the same, as well as the price for which I sold the grain, and on looking over my farming accounts I find that the profit of my land ranges from six to fifteen dollars per acre, clear of all the expense of tilling, harvesting and threshing, and the seed.

I will give you a statement of the expense of sixteen acres of wheat in one lot, sowed after wheat on land which had been summer fallowed the preceding year, and in consequence of the season being wet when it was fallowed, there was considerable spear grass and blue grass left alive in large turfs, which made the expense of tilling after the wheat came off much greater than it would have been if the land had been well tilled when summer fallowed. I select this

* One cow for half the season.

piece as being about as hard a case as I can find in my course of farming, although I sometimes have less profits per acre than I had on the piece in question, owing to some unforeseen cause for a poor crop, such as being winter killed, or blasted. I ploughed the land five times.

Ploughing 16 acres wheat stubble with 3 pr. oxen, 2 men, 8 days, - - - - -	\$24.00
2d ploughing with 1 pr. oxen or horses, 8 days, at 12s. - - - - -	12.00
3d ploughing, 8 days, - - - - -	12.00
4th ploughing, 7 days, - - - - -	10.50
5th ploughing, 6 days, - - - - -	9.00
Harrowing, 2 days, - - - - -	3.00
Sowing, about one day, - - - - -	1.60
20 bushels of seed wheat, - - - - -	20.00
16 days harvesting at 9s. 6d. per day, - - - - -	19.00
Drawing in wheat two days, two men and team, 6.00	

Total, - - - - -	\$116.50
It produced 265 bushels at 7s. 3d. - - - - -	830.76
Deduct one-tenth for threshing, - 33.07	
Expenses as above, - - - - -	116.50—149.57

Profit, - - - - - \$181.19
Profit per acre, \$11.32.

I call the crop a middling one, something less than twenty three bushels per acre, and the tillage much more than common; the profits comfortable.

I find the more I till my land the greater profit I receive from it.

The piece above mentioned was tilled with 4 teams after the first time ploughing, and was sowed within 3 weeks of the commencement of the first ploughing.
A FARMER.

(From the New York Farmer.)

NOTICES OF LARGE TREES IN THE UNITED STATES AND IN CANADA.

Philadelphia, Sept. 20, 1829.

The great elm of Boston Common is 22 ft. in circumference. The Charter oak, in Hartford, Connecticut, 22 ft. An elm at Northampton, Massachusetts, is 21; another 22 ft.; and a third is 28 ft. in circumference. An elm at Springfield, Mass., is 22 1/2 ft. and one 25 1/2 ft. in circumference. A white pine (Pinus Strobus) on the Catskill Mountains, New-York, is 247 ft. long. Dr. Dwight's *Travels*, vol. iv. p. 21.—On the Unadilla, Dr. Dwight mentions pine trees 3 ft. in diameter, and 200 ft. high by estimation, p. 26. A button-wood (Platanus occidentalis), in Jefferson, Cayuga County, New York, on the Montezuma estate, is 47 1/2 ft. in circumference; the diameter of the hollow upwards of 15 ft., 2 ft. above the ground. (*Med. Rep. New York*, vol. iv. p. 427.) A live oak at Dr. Rhoads', Beaufort, South Carolina, has a stem 32 ft. 5 in. in circumference; distance to a branch, 14 ft.; it is nearly of the same thickness the whole length of the tree.

An elm at Johnstown, near Providence, Rhode Island, at 2 ft. from the ground, is 24 ft. in circumference; at 4 ft., 21 ft.; it has eight main branches. In Aurelius, New York, there is another elm 33 ft. in circumference. At Raleigh, North Carolina, there is an oak which, sixty years ago, was so small, that the owner bent it down, and cut off the top; in 1817, at the ground, it measured 25 ft. in girth, but as high as trees are usually cut, 15 ft. At north, the tree covers with its shade a circumference of 33 ft.

A weeping elm (U. americana), before the door of Thaddens Burr, Fairfield, Connecticut, a few years since, was 24 ft. round, at 1 ft. from the ground. A man, alive in 1807 (then 97 years old) planted it.

On the plantation of Mr. Adams, on the river Schuylkill, is a button-wood tree, 27 ft. in circumference.

Michaux mentions that "36 miles from Marietta, in Ohio, on the right-hand bank of the river, he

measured a button-wood, at 4 ft. from the surface, and found it 47 ft. in circumference. It appears to preserve the same dimensions to the height of 15 or 20 ft.; and it then divided into many limbs of proportional size." His host offered to show him others, equally large, two or three miles off. He quotes his father's journal, for another button-wood, which he saw in an island in the Ohio, fifteen miles above the mouth of the Muskingum, which, at 5 ft. from the ground, when the bark was smooth, measured 40 ft. 4 in. in girth. (*Journal*, p. 92. Paris, 18.) In his *Memoir on the Naturalization in France of the American Fruit Trees*, Paris, 1805, he gives a large table of the heights of various trees in North America.

In the first volume of the *Memoirs of the Philadelphia Society for promoting Agriculture* is a paper by the late John Pearson, Esq. Senator of the Pennsylvania Legislature, on the dimensions of numerous American trees, principally taken by himself. This work is in the library of the British Board of Agriculture, and of the London Horticultural Society.

J.M.

A paper published in Gore, Upper Canada, mentions a pine tree now [1829] growing in that vicinity, which about a yard from the ground, measures 204 ft. in circumference, and appears to be but little less at the height of 60 or 70 ft. Its whole height is estimated at 200 ft. It is known by the name of the "Johnny Martin pine," from the circumstance of a Scotchman of that name, who once lived near it, always stopping for a considerable time as he passed that way, and viewing it with mute astonishment.

[London.]

(From the New York Farmer.)

PLOUGHING AND HOING.

The utility of frequently ploughing and hoeing has been long known to practical Agriculturists and Gardeners. Ground often stirred with the plough or hoe in a drought will suffer far less than that not moved.

The reason of this effect I apprehend is not generally understood. It is sometimes said, that the destruction of the grass and weeds leaves more moisture for the corn or other vegetables. This, no doubt, is true—but it is not the sole or chief cause of the advantage of moving the ground in dry weather. Let any one turn up the soil in his field or garden in a drought succeeding wet weather, and he will see innumerable holes or channels leading from the surface deep into the earth. These channels are made by worms descending into the ground in search of moisture or for some other purpose. Through these holes the moisture is drained from the surface and leaves the plants to perish. When the ground is frequently stirred the continuity of these drains is broken and the moisture remains longer to nourish the plants.

C.

(From the New York Farmer.)

TURNIPS.

Niddlesex, July 2, 1832.

Sir,—It is not my design to enter upon the cultivation of the turnip, in the large way, but merely to give my experience of it, as a useful garden vegetable. If good turnip seed be sown, between the middle of September and the first of October, they will grow to about the size of a large musket ball before winter sets in; will sprout very early in the spring, and afford a plentiful supply of greens, better, I think, than any spinach, and much earlier. They should be used tops and bottoms; may be sown pretty thick, and the land may be used for any summer crop afterwards. Such is my experience and observation on the subject of raising turnips.

R.M.V.

In Russia, raw turnip is handed about in slices, in the first houses, upon a silver salver, with brandy, as a whet before dinner!

HORTICULTURE.

EXPERIMENTS WITH CHINESE SILK-WORMS.

MR. SMITH:

Philadelphia, July 20, 1832.

Sir,—Having seen an abstract published in the *National Gazette*, in the spring of 1828, of an experiment by Professor Giovanni Lavin, with Chinese Silk-worms, the result of which induced me to believe that they might be a valuable acquisition to the United States, I resolved to send for some of their eggs, that I might put their merits to the test. The object of my wishes having been stated to a mercantile friend, he kindly sent my note to his correspondent in Canton, who promptly attended to it, and in the month of October, 1828, forwarded me several sheets of the desired eggs, variously put up, nearly all of which arrived safely on the 4th of March, 1829.—The eggs were said to be of the silkworms which produce the stuff called *Conglee Canton No. 1 Silk*.—They were hatched for me by Messrs. Terheerens of Philadelphia county, experienced silk culturists, with the utmost care, in a room containing their own stock, and the temperature of which was regulated by a thermometer day and night, so as to secure their gradual and simultaneous maturation, a point by the way, of great importance, and one of which we can never be certain of attaining, if we depend upon the heat of the atmosphere which often varies 30 degrees in the course of 24 hours. They were put to hatch on the 20th of April, and they all came out on the 27th and 28th of that month, just as the white mulberry leaves were beginning to burst. On the 18th of May, Messrs. T. brought them to the house I had prepared in the vicinity of Philadelphia for their reception, and they were placed on the shelves of the frames they were destined to occupy. One of these frames was ten feet, another fifteen feet long, and both four feet wide: a third frame consisted of seven shelves, each three feet four inches square, and when the worms were full grown, they filled the whole of both sets of frames, the distance between the worms not being more than two inches. It might form a problem to calculate their number. When full grown they were about one inch, and one inch and a quarter long, and of the diameter of a stout quill. During eighteen days of the time of their feeding, the nights and mornings were so cold as to require the use of artificial heat, and during the whole of two cold rainy days, a little fire was kept up in a sheet iron stove, to prevent the worms being chilled, the checking of their feeding, and consequent useless increase of the duration of their existence. The worms had thus every possible chance of success. They commenced the formation of their cocoons on the first of June, and by the 8th, all who spun their silky tombs, had finished them.—The color of these was brimstone, and their size so small that 1200 were required to weigh a pound of twelve ounces. The worms gave infinitely more trouble in attending them than the European species, for when they had attained their full maturity, and shed by their transparent yellow color that they had filled their silk vessels with the material for the formation of that article, instead of mounting the branches carefully placed along the frames, vast numbers laid down and evinced no disposition to spin.—Being determined to go through with the experiments, I hired little boys to pick them up, and place them on the bushes, and thus induced many thousands to form cocoons, which, like as many more, would otherwise have died. The size of the cocoons was moreover very diminutive, as may be judged, when it is known that instead of 1200 being required to weigh a pound, only 150, 208, 200, 240, 267, 271, 195, 306, 490 to 600 cocoons of European and American fed worms balanced that weight.* The Chinese cocoons were further objectionable in being very deficient

* Certified by eleven citizens.

* Silk Manual published by Congress, chap. 13.

in compactness, and when an attempt to wind them off was made, the fibres broke after every third or fourth turn of the reel, thus causing a loss of time, much trouble, and disappointment to the operator, which are incompatible with either profit or pleasure. The trifling wages paid to a Chinese workman, if employed by the day, or contentment on the part of the operative with a small reward for his labor, may compensate for these defects, but it is clear, that even with the low wages of an European workman, the Chinese worms will never be substituted for the common kinds. The price of free labor, or the value of that of slaves in the United States, are totally incompatible with the culture of these worms.

With the view of ascertaining the result of attention to the Chinese worms, by others, I sent some thousands of the eggs to two experienced silk culturists in the south, on whose attention and accuracy I could depend; and from them I learnt, 1st, that the worm weighed twelve grains and a half, when ready to spin, and 2d, the cocoon nine grains when finished. 3d, that they lived 28 days; 4th, that the moth or butterfly came out in seven days; 5th, that the worm was hatched in seven days after; 6th, that they produced three crops. The first hatching was on the 13th of April; the second on the 7th of June; the third on the 17th July. 6th—A quarter of a pound of the cocoons (1720 grains) yielded 302 grains of silk.

My own stock, but in the hands of the person who had charge of my worms, also produced three crops of cocoons, and the moth from the last, laid eggs, which hatched, but the cold weather, (the man not using artificial heat) prevented the worms from finishing their course. The apparatus for feeding silkworms, makes all the difference between a labor and an amusement, and I therefore think it useful to state that two of the long frames mentioned above, were filled in with common house laths, or thin pine slats, nailed on: one of them having longer legs than the other, stood upon the frame of the latter. The third apparatus was upon the plan (but larger) of that described by Mr. Swayne in the 7th vol. of the Trans. Soc. of Arts, London, and figured in chapter 5th of the Silk Manual. It answered admirably, but as I had mine very nearly made and filled in by the tasteful basket workers of Philadelphia County, it was more expensive than the others. It has however the merit of holding a vast many worms, of facilitating attention to them, and taking up little room, and will last a life time. It cost \$9.

The paper that led me to the experiment with the Chinese worms, was the following: "*Superiority of Chinese Silkworms*." By certain experiments made by the Pro. Giovanni Lavini on 150 grains of the seed of silkworms of China, he found that 10,000 eggs weighed 150 grains; second, that as well when just come to life, as in the first and second stages, the worms refused the leaves of the tartaric and papiriferous mulberry, and died from starvation; third, that notwithstanding by these experiments so great a quantity was lost, he obtained 28 pounds of cocoons, *white and compact*; fourth, that 210 cocoons formed a pound in Piedmontese weight of 11 ounces to the pound, while of the cocoons of the common silkworm there were not required more than 96, 100, and 104. [!!!] From other 150 grains of seed in Turin, the quantity obtained was 10 pounds of cocoons, and these *spotted, incompact*, but white: it is thought, in the absence of the master, the worms had been fed with damp leaves.

"It results from these experiments, that notwithstanding all disadvantages, the Chinese worms are a desirable object of cultivation; that although their cocoons do not reach half the weight of common silk worm cocoons, yet that their quantity and value are far superior; the care they require is the same, and the consumption of leaves nearly equal."

I conclude by observing, that the skin of silk reeled from the Chinese silkworms, reared by my southern friends, is superlatively fine, and attracted the at-

tention of an English silk manufacturer, to whom I shewed it, along with another skin from the cocoons of Genoese silkworms: but it was reeled with great waste. Accept my respects,

JAMES MEASE.

(For the American Farmer.)

WORMS IN STONE FRUIT.

Cayuga co., N. Y. 7 mo. 20, 1832.

I make the following extracts from an essay under the signature of SCRUTATOR, which was published in vol. 7, page 82 of the New England Farmer.

"The worms found in plums and other stone fruits, is the larva of a weevil, and apparently the same as that described by Prof. PECK in the *Masachusets Agricultural Journal* for January, 1819. Prof. PECK calls his insect *Rynchoniscus cerasi*, and says that he obtained it from excrescences on the limbs of the cherry trees; and that it proved to be the same which was known to occasion the fall of peaches, apricots and plums. From the latter fruit I obtained the perfect insect, differing in no respect from that described by Prof. PECK. It is about the size of the pea bug, variegated with brown and white, the thighs with two teeth beneath, and the wing-shells covered with ten or twelve tubercles; four of which, in the middle, are polished, black, and larger than the rest, two of them conspicuously so.—A paper by Mr. Tilton on this insect was first published by Dr. Mease in his *Domestic Encyclopedia*.

"Melsheimer in his catalogue observes that the larva lives under the bark of the peach tree; and we have Prof. Peck's authority for the fact that it is the cause of the excrescences on the cherry tree; it is probably also the same that deforms the limbs of the plum tree.

"According to several memoranda the perfect insect is found during most of the spring and summer months, but it first appears in May, when it commences puncturing the small fruit with its proboscis, and deposits in the puncture thus made, an egg which in process of time becomes a maggot or worm that causes the premature fall of the fruit. The worm then easily escapes into the earth, becomes a pupa, and returns to the surface in its perfect state in about three weeks. Now this metamorphosis may take place at various times during the last of summer or beginning of autumn, when the perfect insect, finding no young fruit, is compelled to oviposit or lay its eggs in the small branches. The larva live in the branch during winter, and are not perfected till near the last of the ensuing June. Should however, the fall of the fruit occur late in autumn, the development of the perfect insect is retarded till the next spring, whence arises the brood which oviposits in fruit.

"It is a singular circumstance, and one which has not been hitherto sufficiently explained, in the history of this insect, that some broods should attack the limbs and others the fruit."

The opinions of the late Prof. Peck on subjects of this nature, are entitled to great respect. The manner in which some insects adapt themselves to particular circumstances,—such as the yellow hornet which sometimes nestles under a sod like the humble bee, and sometimes builds a paper nest on a bush or a fence like the large blue hornet,—may serve to show that insects, though guided by instinctive wisdom, at times remarkably vary their operations; and therefore it is prudent not hastily to reject the conclusions of naturalists. When we are told, however, that the same worm that causes the plum prematurely to drop, also destroys the cherry tree by forming excrescences on its branches, and likewise injures the peach tree by feeding under the bark, we want the best proof to insure our assent. In this neighborhood we have the Curculio, which damages our plums, in overwhelming numbers; and last year, for want of fruit better adapted to their tastes, they nearly destroyed all our peach-

es. This was an extraordinary circumstance; yet the branches of our cherry trees have never been injured by any insects; neither have any such worms as the Curculio been found under the bark of our peach trees. The *Ageria exitiosa* indeed, infests most of those trees near the surface of the ground; but no skillful naturalist will confound this insect with the Curculio.

If I knew the writer of that article, I would transmit him a copy of these remarks, and respectfully solicit his comments and explanations, so that the matter should be further investigated; but under present circumstances I cannot do better than to request a place for them in the American Farmer, hoping that they may catch the eye of some entomologist who will explain the difficulties of the case.

D. T.

(From the New York Farmer.)

RADISHES.

Middlesex, June 30, 1832.

Sir,—Few vegetables afford a better article of diet than good radishes. Much depends on seed. I have generally found the English seed, or that raised about New York, to succeed best with me. These should be sown about an inch deep, and covered in the early part of the season with a mixture of sand and dung. This sand keeps away the little worms that spoil most of our early crops, especially when in a clay soil, and the dung hastens their growth; and the excellence of a radish depends very much on the quickness of its growth. The seed should be sown weekly to insure a succession. After the first of August the worm is nearly extinct, and the sand is no longer necessary. Yours, &c.

R.M.W.

(From the Farmer's Guide.)

BUSHES.

In many parts of our country, the pasture grounds are infested, and often overrun with noxious shrubs; this is the most slovenly part of our husbandry, and ought to be cured.

Eradicating them, says *Deane*, requires so much labor, that farmers are most commonly content with cutting them once in a few years. But the more cuttings they survive, the longer lived they are apt to be; and the harder to kill, as the roots continually gain strength.

It is undoubtedly true, that cutting bushes in the summer will do more towards destroying them, than doing it in any other season particularly in August. Other circumstances being equal, the wettest weather is best for destroying shrubs by cutting. Spreading plaster on ground where bushes have been cut, may tend to check their re-sprouting, by encouraging the growth of grass.

It is said to be a good method of destroying bushes, to cut them with hoes close to the surface, when the ground is frozen hard; and that more may be destroyed in a day, in this way, than in the usual method of cutting with a bush scythe.

Bushes which grow in clusters, as alder, &c. may be expeditiously pulled up by oxen; and this is an effectual way to subdue them.

Elder is considered harder to subdue than almost any other kind of bush; mowing them 5 times in a season, it is said, will not kill them. The roots of the shrub oak will not be killed, but by digging them out.

To destroy bushes in swamps, flooding 2 or 3 summers is the most approved method. But if this is not convenient, draining will so alter the nature of the soil, that the shrubs, which it naturally produced before, will not be any longer nourished by it; and one cutting may be sufficient.

After all, extirpation, by digging them out, and by fire, is cheapest and most effectual.

(From the New York Farmer.)

TO MAKE POPOSEE.

July 4, 1832.

Dried flower leaves put in a covered vase, with saltpetre put among them, say half an ounce to a pint of leaves, and a few drops of the otto of roses, make a fine substitute for fresh flowers. The perfume may be enjoyed for months, or even years, without any addition.

As this is the season for making this pleasant little fancy, I would say to the lovers of Flora, collect the leaves of your wall flowers, sweet scented honeysuckle, some of the most pleasant geraniums, sweet briar and roses, with any other of the agreeably scented, spread the leaves on a cloth, and when sufficiently dry, mix as directed above. The little luxury will pay the trouble. We may be worse employed than in conversing with flowers. They are innocent companions, at least; and in those hours when the most industrious look for relaxation and amusement, it will be happy for us if we find no society more noxious than that of these pure and beautiful parts of the creation. A.W.

RURAL ECONOMY.

(From the Genesee Farmer.)

SWINE.

The Hon. Oliver Fiske, of Worcester, has rendered great service to the community by introducing to the notice of farmers in this country, a variety of this animal, called the Bedford breed.

The following is an extract from a letter to Mr. Fiske, written by his Excellency Levi Lincoln, Governor of Massachusetts, and President of the Worcester Agricultural Society; originally published in the New England Farmer, vol. iii. p. 222:

"I have great pleasure in voluntarily offering myself as your compurgator in the representations with which you have recently favored the public, of the Bedford breed of swine. The care and perseverance which have marked your attention to the prospects and value of these animals, and the success which has followed your exertions to introduce them to the favor of practical farmers require, at least, an acknowledgement of obligation from all those who have been particularly benefited by your liberality, and from no one more than myself. This breed of swine has taken the place of a long legged, long nosed, flat sided, thriftless race, called by some the *Irish* breed, by others the Russian, which would barely pay by their weight for ordinary keeping, and never for one half the expense of fattening, if, indeed, grain would make them fat.

"I had three pigs butchered from the same litter, precisely seven and a half months old. Their weights when dressed were 230, 235, and 238½ pounds.—One sold in Boston for 63 cents per pound; the other was put up for family use. The expense of keeping and fattening these pigs, I am satisfied, was less than any other breed I have ever raised, and the proportion of bone and offal to the valuable parts, was surprisingly small. I have fifteen more on my farm, part designed for the market in the spring, and part to be kept over as store swine; and their appearance will furnish ocular satisfaction of the propriety of all which has been said in favor of the breed."

The above is followed by a communication from the Hon. O. Fiske, in which he says, "I have obtained the following account of the introduction of this breed of swine, from the Hon. T. Pickering. He saw them first on a farm of Gen. Ridgely, about fourteen miles from Baltimore. Gen. R. informed him that they were brought to this country as a present to Gen. Washington, from the Duke of Bedford, who committed them to the care of an English far-

mer by the name of Parkinson. This man took a farm in the neighborhood of Baltimore; but instead of sending the swine to Gen. Washington, Parkinson sold them. Gen. Ridgely esteemed them very highly, and sent Col. Pickering a pair of them in a vessel bound to Salem.

"Mr. John Reed, of Roxbury, obtained the breed from Col. P.'s stock. From Mr. Reed I obtained the offspring from separate litters, and transferred them to Worcester, where by avoiding the breed directly in and in, I have preserved them without degenerating. The race is most perfect and valuable when unadulterated; but affords a most valuable improvement to our native breed when judiciously crossed."

Capt. John Mackay, of Boston, has exhibited at Brighton a peculiar and excellent breed of swine, which have repeatedly received premiums from the Massachusetts Agricultural Society.

The author of Gleanings in Husbandry, an English work of merit, says, "There is an animal kept tame in some of the East India Islands, called *Babyroussa*, of the same genus as the common swine; which, if it would bear our climate, would be a useful animal, as it lives solely on herbs and the leaves of trees, and never ravages gardens like swine; the flesh is well tasted."

The West India Islands and the Azores ought not to be forgotten, as producing a fine and delicate breed of pigs, originally, it might be presumed, Spaniards, which have at various periods found their way thither; such have been used for the purpose of refining our native breeds.

South America has also a fine breed of pigs. At Lord Somerville's show, in 1809, Mr. Gibbs, seedman to the Board of Agriculture, exhibited a black wild pig from Monte Video. The sow and litter were imported together, and were very savage.—They were deep in form, with very fine bone. One of them fattened very young to twenty-four stone; and although ripe and carrying a sufficient quantity of *fleur*, it had more flesh in proportion, in the opinion of the butcher, than he had ever before witnessed.—There was the least possible offal, the inside seeming to be filled with flesh. It was remarked that the great gut was smaller than the smallest gut of a small pig. This pork was excellent, inclining to the savory.

It has never occurred, that I am aware, to our breeders, to preserve any of the fine foreign varieties pure, whence possibly a still more delicate pork might be raised than any we at present possess, granting the attempt were made with those which furnish muscular flesh or lean, as well as fat. Some of the wild swine of the opposite continent are well adapted to such purposes, and are besides very prolific.—Most countries abounding with forests have herds of swine; these animals, under such circumstances, being always ready to quit domestication. I remember, very many years ago, two young boars retiring, on French leave, to an extensive wood, then the property of Mrs. Eldred, between Colchester and Mersea Island, which became subsequently, during several years, the terror of the neighborhood.

(From the Monthly Magazine.)

MILK.

An easy method of removing the taste of garlic, or of turnips, from milk, and thus preventing it in butter.

As the dairy is found of much importance to the agricultural interest of this country, the following is offered to the public through the medium of your miscellany. The object of the present essay, is to avoid an inconvenience to which our dairy is subjected, and to convert it into an advantage. The following plan is recommended, as a method of removing the garlic taste from milk, and producing sweet good butter, in place of that which is generally considered so disagreeable.

When the milk is new from the cow, put one quart of boiling water into every gallon of milk; stir it through and put the whole into broad shallow dishes, so that it will not be above two inches deep. Let these dishes be placed on an open shelf, that the vapour may pass freely and entirely away. When the milk has stood in this manner twelve hours, it may be put into the churn all together, or only the cream, as may be most agreeable to the taste or practice of the operator. Milk from cows that have pastured on garlic, when managed in this way, will be quite sweet. The plan here proposed is founded on analogous experience.

The feeding of cows on turnips communicates a disagreeable odor and taste to the milk and butter; but in many parts of Britain they make excellent butter from turnip-fed cows, by a plan similar to the foregoing. The bad taste of the turnip consists in some volatile substance which is evaporated by the hot water. Garlic is much of the same nature, but probably more volatile.—Biscuit, baked from garlicky flour, has no taste of garlic; but soft bread or pudding of the same flour, retains it strongly, having both experienced an imperfect evaporation.

(From Young's Farmer's Calendar.)

EMPTY PONDS.

This is a proper season for emptying ponds, and cleansing rivers; for, being early in the summer, you will afterwards have an opportunity of turning the mud over, and thereby sweetening it, and laying it into the proper state for bringing on the land. This is a part of husbandry too much neglected by many farmers; but advantage should always be taken of it by a good husbandman, when he is lucky enough to succeed a great slover; for then he will probably find all the ponds, &c. full of rich mud.

It is imprudent that pond mud, especially if there is a stream into the water, should ever fall of proving a good manure, when judiciously used. The method of managing it, which has been found the most beneficial, is the following:

As soon as the mud is dry, and hard enough to spit, turn it over, and three months after, mix it with a quantity of chalk; if lime is cheap and plentiful, it will be an excellent management to add about one-tenth the quantity of mud in lime. Let the whole be mixed well together, and in September turned over again, and spread upon pasture or meadow land in October.

(From the New England Farmer.)

ECONOMICAL BREAD.

The Rev. Mr. Haggitt, of Durham, England, has lately stated a successful experiment for saving the consumption of flour in making bread. Mr. Haggitt gives the following account of the process: I took five pounds of bran, boiled it, and with the liquor strained from it, kneaded fifty-six pounds of flour, adding the usual quantity of salt and yeast. When the dough was sufficiently risen it was weighed, and divided into loaves; the weight before it was put into the oven being ninety three pounds thirteen ounces, or about eight pounds ten ounces more than the same quantity of flour kneaded in the common way. It was then baked two hours, and some time after being drawn, the bread was weighed, and gave eighty-three pounds and eight ounces—loss in baking, ten pounds and five ounces. The same quantity of flour kneaded with common water loses about fifteen pounds, ten ounces in the baking, and produces only sixty-nine pounds and eight ounces of bread; gain by my method fourteen pounds, that is, a clear increase of one-fifth of the usual quantity of bread from a given quantity of flour. He also states that the bran, after being used in this way is equally fit for many domestic purposes.

MISCELLANEOUS.

HOUSEKEEPING IN GERMANY.

The following interesting and amusing notices are from the pen of the Conductor of the English Gardener's Magazine: "Few things in the domestic economy of the Germans strike an English resident more than the preparation, far exceeding that in our own country, which they make for the winter consumption of vegetables. Sauerkraut is a kind of food of which every family stores up in proportion to its size, one or more large casks; and in October and November the market-places are crowded with huge white pyramids of cabbages (all heart) for sale; and in every court and yard into which an accidental peep is obtained, is seen the bustle of preparing them for use, and the baskets of shredded cabbage, which in that state resemble mountains of green tinged froth or syllabub. Kidney beans are another vegetable of which, at an earlier period of the year, the Germans store up large quantities for winter consumption; a circumstance which accounts for the number of acres of this plant, which at first excite the traveller's surprise, cultivated in the open fields, in the neighborhood even of towns not very large. Of the quantity of Kidney beans thus stored in inns and some families, an idea may be formed from the following fact: During two days that we spent in the latter end of August, at the Trieriesche Hof, the principal hotel at Coblenz, from eight to ten women were constantly employed in the yard, (as they probably had been before our arrival, and continued to be after our departure,) in trimming and slicing [the pods of] kidney beans, of which besides a large basket full next to each, there stood another in the midst of the circle that would have filled a good sized cart. The beans thus prepared are plunged into hot water for a few minutes, then drained, and closely packed with salt in jars or barrels.

"In a similar manner are stored in October, considerable quantities of the leaf-stalks and dried ribs of the leaves of young turnips, (after the thin part of the leaf has been cut off,) and a portion of the bulb, all cut into lengths of about an inch. Without this provision of sauerkraut, kidney beans, and turnips, added to an ample stock of potatoes, onions, carrots, (kept in sand,) &c. all deposited in the spacious cellars with which every decent house is provided; and moreover abundance of apples, pears and quinces, both fresh and dried (by being pared, cut into slices and hung on strings near a fire); a German family would think itself badly fortified against the approach of winter, and would relish very badly being put, at this season, on the short and unvaried English commons of potatoes, with an occasional change of borecole or Savoy cabbage.—In fact, no German conceives he has dined tolerably, at any season, without having eaten of three or four kinds of vegetables. To decide which is the best system, the German or the English, would require a long discussion; but two points seem clear: first, that the adoption of the varied German vegetable fare in England would lead to a greater extension of its horticulture; and secondly, that the English cannot fairly determine how far they would prefer the German system until they have tried it. Many English residents in Germany are as loud as the natives in the praise of sauerkraut when properly cooked, which is every thing. For these reasons it might be worth while for some of our horticultural societies to procure from the foreign ones, full and precise directions for preparing and storing their winter vegetables, and then offer premiums for the most successful imitation of the practice at home, giving a fair trial to sauerkraut, salted kidney beans, &c. by having them served at their anniversary dinners, cooked in the most approved foreign modes, as there seems no good ground why vegetables preserved and cooked in new ways should not be tasted and decided on at such dinners, as well as fruits grown or kept by new processes."

METEOROLOGICAL JOURNAL,

For 7th mo. (July,) 1832, kept at Clermont Academy, near Philadelphia, by S. S. Griscom.

Day of the month	Therm. at sunrise.	Clouds, a.m.	Wind, a.m.	Remarks, a.m.	Max. of Therm.	Clouds, p.m.	Wind, p.m.	Remarks, p.m.
1 65	c,	SW 1			90	c;	SW 4	
2 67	c;	SW 1			91	c m;	SW 4	
3 72	c,cs,	NW 3			91	0	NW 3	cs, in sw in eve.
4 65	c;	NNE 2			91	c;	NNE 1	73° cs; SE 3.
5 62	c,cs;	0			90	c,cs;	SW 1	
6 63	c,	0		91° c, sw 2.	91	c,	SW 1	74 sw 4 c,cs,
7 70	c&cs;	SW 1			97	c;imb.	SW 1	80 at 9 pm l,
8 70	cs.	NE 2			88	cs;ms;	ENE 4	72 cs; sf 4 l,
9 67	s.mcs.	NE 4		r. very little	69	mcs.	NE 3	r very little
10 65	ms;	SW 1		83 sw 2. nimb.	77	ms;	NW	r,—63 nimb. t, l; r:
11 58	mcs.	NW 4		r. c; ms; NW 5. r.	74	c;ms;	NW 1	80 at 9 pm l, t, in eve
12 58	ms.	NW 4		r.	78	ms;N;	NW 2	r,
13 57	cs.	NW 1		78°	75	ms;N;	NW 4	r, nimb. r, NW 7 in afternoon
14 58	cs;	NW 3			78	ms;	NW 4	64 at 9 pm
15 58	0	NW 3		c;	85	ms.	NW 2	
16 59	ms,cs,	NW 1		87 m: ms:	80	c;ms;	SW 4	nimb. l, t, r,—65 l: t, r, in eve
17 62	c,cs;	SW 2		r very little—85° mc: ms:	85	c;ms;	SW 3	71 sw 4. cms. l,
18 67	mc,	SW 2		m: ms; 87	87	ms;	SW 3	71 sw 1. l,
19 68	c;mc,	SW 2		r! t, l, w! at 2 pm hail 9	81	mcs;	SW 3	82 at 5 pm r. l. NW 7. 65 at 9 pm
20 66	ms.	NW 3			86	ms;	NW 2	ms; cs;—76 nimb. r; l, at 9 pm
21 69	mc,	NW 1		87 ms; NW 4	78	mcs;ms;	NW 4	
22 63	c,	NW 2		c. cs. dense	73	cs.	NE 3	66
23 57	ms.	E 3		81 E 4 ms;	83	ms.	ESE 4	64 SE 1
24 61	mcs.	E 1		r,	80	mcs.	SE 1	l,
25 70	mcs;	SW 1			88	ms;	SW 3	68 ms: nimb. l, r,
26 62	ms.	NW 4			80	ms;	NW 4	65 aurora, NW 1 l,
27 60	0	NW 3			81	ms.	NNW 1	65 at 9 pm
28 58	c;	SW 2		87 c. SW 4	89	c. cs;	SSW 4	69 c. SW 3.
29 65	c;ms;	SW 2		85 cms: r,	89	c;m;	SW 4	75 cms. nimb. l: t! r: SW 4.
30 67	c;ms;	SW 1		r,	85	c,m;c;	SW 3	r, 73 nimb. l;
31 66	ms;	SW 2		c, mc:	85	c;ms;	SW 1	r, 70 mc;cs, SE 1

SUMMARY.

Mean of thermometer at sunrise, 65.7.

Mean at mid day, 84.2.

Mean for the month, 73.95.

Minimum, 57 on 13th and 29d.

Maximum, 97 on 7th.

Range 40°.

Coldest day, 66 on 11th.

Warmest day, 83.5 on 7th.

Aurora on 26th.

Rain on 14 days.

Electrical phenomena on 14 days.

Days of fair weather 24.

Days of clouds 7.

Wind west on 254 days.

Wind east on 51 days.

Thermometer above 76° on 29 days.

" 80° at 9 P. M. on 7th.

Upon the whole a pleasant month, though the rains were too light to wet the ground thoroughly—the weather for harvest very fine.

MEMORANDA.

6th. Exceedingly warm weather for several days—roads dusty. 7th. Beginning wheat harvest in New Jersey. 9th. 24 days since we have had rain enough to lay the dust, or stop the haymakers except for a few minutes at a time. 10th. Fine showers, but not enough to wet the dust thoroughly, though very refreshing to the gardens and grass. 14th. It has rained every day for the last five, but in small quantity, wetting mellow ground about 6 inches; Indian corn growing rapidly. 16th. At 2 P. M. two or three claps of very heavy thunder from a small cloud which arose in the west, with a little rain, W. 6. 17th. Farmers busy in housing their wheat; will mostly finish this week, getting in a good crop

in the finest order. 19th. At 3 P. M. during a shower from the west, much large hail fell for several minutes—the wind blew a heavy gale from W and broke many trees—thermometer fell 15°. At 6 P. M. another gust from N. W. with very high wind, lightning and thunder—rained very fast for half an hour—Altheas beginning to flower. 21st. Very beautiful cumulo cirrus to day and yesterday. 22d. Remarkably dense cirro stratus—in evening clear—the sky remarkably red half an hour after sunset, 23d. The reflection after sunset more remarkable than yesterday, remaining bright till 9 P. M. 26th. A number of falling stars in the evening. 29th. In the night much lightning and heavy thunder—one clap unusually loud and heavy, shaking the windows violently—the electricity seemed to be passing between two clouds, one in N. W. and the other in S. E. without striking the earth. 30th. The rain continues gently, will be very useful to the corn, which is said to suffer much from the dry weather a little north of us—much oats cut, the crop fair and grain well filled in this neighborhood.—Altheas very full of bloom.

In the beginning of this month I examined the limb of an apple tree in an orchard belonging to my uncle, J. Denn, near Salem, N. J., which I girdled near the body of the tree 10 years ago—a ring of bark $\frac{1}{2}$ of an inch broad quite to the wood was taken off, and has so remained ever since. The wood appears dry on the surface but sound. The branch has grown beyond the ring more than one inch in diameter since the wound, while the part next the tree has not increased perceptibly. It has borne good fruit every year and still looks flourishing, with a number of apples on it. Although the wood has increased in diameter considerably, the branches do not appear to have increased in length at all.

CABBAGE SEED, &c.

For sale at the American Farmer Office and Seed Store, the following seeds, which are known to be of the very best quality:

EARLIEST FRENCH, *a very fine variety*,
E. EARLY GEORGE, E. BATTERSEA,
E. EARLY YORK, E. SAVOY, or CHOU DE
E. SUGARLOAF, MILAN,
E. HEART-SHAPED, IMPERIAL,
E. WELLINGTON,

BROCCOLI, CAULIFLOWER, CRESS; Long Green Cucumber for pickles; Brussels and Hanover Sprouts; Radish, and a general assortment of GARDEN SEEDS.

STRAWBERRY PLANTS.

The following varieties of Strawberry plants are for sale at the experimental farm connected with the American Farmer establishment:—

NEW PINE. This is probably the best of all the varieties for productiveness, flavor and size of fruit, many of which measured the past season four inches in circumference, without the slightest attention to culture or thinning out. Price \$2 per hundred.

EARLY SCARLET, LATE BOUBON PINE, LARGE EARLY SCARLET, price \$1 per hundred.—These three kinds are those from which gardeners generally supply our market.

Roseberry, Downton, Grove End Scarlet, Bath Scarlet, Duke of Kent's Scarlet, Raspberry Hautbois, New Black Musk Hautbois, Wilnot Superb, Keene's Imperial, Keene's NELSON, fifty cents per dozen.

MELON, METHVEN CADESL, new and splendid varieties, \$1 per pair.
The best season for transplanting Strawberries is the latter end of August and September. The plants can be put up and sent to any part of the union. Orders should be sent immediately to

I. I. HITCHCOCK,
Office American Farmer.

RHUBARB PLANTS.

We have also for sale RHUBARB PLANTS, for tarts, for a notice of which see this week's number of the Farmer. Price, for year old plants, 124 cents each—for two year old or upwards, 25 cents each.

Also, SEAKALE PLANTS, 25 cents each.

IMPROVED MILCH CATTLE WANTED.

A young Bull, not vicious; and a few Heifers, or Cows, of the Improved Shorthorn Durham, of pure blood, or cross on the North Devon, or Alderney stock, of pure blood, may find a purchaser at fair prices, if their owners will direct a line to the post-master, at Tye River Mills, Nelson County, Virginia, giving the pedigree, size, color, age, capacity for milk and price. It is for the quantity and quality of their milk that they are sought; and it will be no objection if they are of moderate size only. It is all important that they be descended from Cows that give quantities of rich milk. Cows in calf by an improved Shorthorn Durham Bull, would be preferred.

3d July 27.

STRAWBERRY PLANTS, TURNIP SEED, &c.

The subscribers are now prepared to deliver to order, Strawberry Plants of the most approved kinds, which will be packed so as to warrant their safe arrival at any part of the United States. The months of August and September being the most favorable season for transplanting, it will be well for those who wish to purchase, to give their orders early, and by care in planting, with an occasional watering, fine plants may be produced.

The kinds now on hand are, large Early Scarlet; large dark old Pine; French red Alpine and Faulkner's late Scarlet, at 25 cents per dozen, or \$1 per hundred; large dark musk Hautbois; new black musk do; white modishly; scarlet Lima; Downton, Wilnot's superb and Roseberry, at 50 cents per dozen, or \$2 per hundred.

Our nursery is rapidly progressing towards the point destined at its commencement. We have now closely planted about 13 acres with fruit and ornamental trees, shrubs and vines.

TURNIP SEED of various kinds and many other fresh seeds, for summer and fall planting.

SINCLAIR & MOORE,
Aug. 10. Grant street, near Pratt-st. wharf.

ORCHARD GRASS SEED WANTED.

The subscriber wishes to purchase a few hundred bushels of PRIME ORCHARD GRASS SEED, that is clear from noxious seeds, for which cash will be given.

J. S. EASTMAN,

Pratt street, near Hanover.

Who has in store RUTA BAGA and TURNIP SEEDS, and a general assortment of GARDEN SEEDS, thirty-four pounds EARLY YORK CABBAGE SEED, just received from London.

Also, his general assortment of AGRICULTURAL IMPLEMENTS, such as Wheat Fans, Corn and Tobacco Cultivators, Corn Shellers, Harrows, his Patent Circular Straw Cutters, and common Dutch Cutting Boxes, &c. &c. Wrought and Cast Share PLOUGHS, of all sizes, from a small six inch Seed Plough, to the largest Three Horse Plough, all of which are made of the best materials and warranted, and with his very reduced prices, he hopes to merit a liberal patronage.

BLOODIED HORSES, BROOD MARES, AND COLTS FOR SALE.

At the residence of the late Alexander F. Rose, Esq. in Stafford County, Vir.

No. 1. ch. m. FLORA, fourteen years old, out of Miss Dance, by Ball's Florizel.

As the character of Florizel is so generally known, and ranks him among the most distinguished horses of his day, it is deemed only necessary to say, he was the sire.

No. 2. b. m. PET, ten years old, out of Miss Dance, by St. Tammany.

St. Tammany, the sire of Pet, was full brother to Florizel, and bred by Maj. John Roberts, of Culpeper, who purchased him a sucking colt, and, when only three days old, gave for him 100 guineas. When a colt he was put in training by Maj. Roberts, but an accident occurring, was withdrawn from the turf. In point of performance and appearance, his judicious owner esteemed him at that age as promising to be fully equal if not superior to his brother Florizel.

Miss Dance, the dam of these two mares, was by Roebuck, was bred by Col. Dance, of Chesterfield, and is well known to have been one of the finest mares in Virginia. When twenty-three years old, and owned by Maj. Roberts, \$500 was offered for her and refused. The dam of Miss Dance was by Independence, grand dam by the imported horse Centinel, or Flimnap, g. grand dam by the imported horse Janus. Roebuck was by the imported horse Sweeper, son of Mr. Beaver's Great Driver; his dam by the imported horse Bagazet, son of the Earl of March's old Bagazet, son of the Godolphin Arabian.

These two mares are now in foal by Carolinian, a distinguished son of Sir Archy; and out of them are the following colts:

1. a ch. f. three years old, out of Flora, by Lafayette.
2. a ch. f. two years old, out of Flora, by Contention.
3. a b. f. two years old, out of Pet, by Contention.
4. an iron grey, one year old, out of Pet, by W. R. Johnson's Medley.

No. 3. ch. m. Virago, eight years old, by Wildair, dam by the imported horse Hamilton, grand dam by Spread Eagle. Wildair was by Ajax, and bred by Col. R. Walker, of Amherst, his dam by Knowsley, grand dam by Highflyer, g. grand dam by old Wildair, g. g. grand dam by Assal, g. g. g. grand dam by Aristolte, g. g. g. g. grand dam the celebrated running mare Hixford.

Out of Virago, is a fine two year old filly, by Contention, and she has now by her side a beautiful bay filly, by Governor Carbone's imported horse Young Trulle, and is now in foal by Carolinian.

No. 4. ch. m. Nettle, seven years old, full sister to Virago, has now by her side a fine colt, by Young Trulle, and is now in foal by Carolinian.

No. 5. ch. m. Cora, six years old, full sister to Virago and Nettle, and in foal by Carolinian.

Out of Cora, is a beautiful ch. f. one year old, by Contention.

Application to be made to the Executors of Alexander F. Rose, deceased, Fredericksburg, Virginia.

Aug. 10. 2ms

ORCHARD GRASS SEED.

A small lot of Orchard Grass Seed, of present year's growth, just received and for sale by

Aug. 10 SINCLAIR & MOORE.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—A considerable advance will be noticed in our quotations of wheat, but it must be understood that we quote best red; the parcels sold at our quotation—were uncommonly fine, free from garlic, and every other foreign seed. In other articles there is little or no change.

TORACCO.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 8.00 a 8.50; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a —. Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00.

Flour—best white wheat family, \$7.25 a 7.50; super Howard-street, 6.50 a 6.63; city mills, 6.37 a 6.50; Susq. — a —; CORN MEAL bbl. 3.50; GRAIN, best red wheat, \$1.27 a 1.30; white do. 1.27 a 1.32; Susq. — CORN, white, 71 a —, yellow 71 a —; Rye, 60 a 63 — OATS, 52 a 55.—BEANS, 75 a 80.—PEAS, 65 a 70.—CLOVER-SEED — a — TIMOTHY, — a — ORCHARD GRASS — a — Tall Meadow Oat Grass — a — Herd's, 75 a 87½.—Lucerne — a 57½ lb.—BARLEY.—FLAXSEED 1.50 a 1.62.—COTTON, Va. 8a10.—Lou. 9 a 13.—Alab. 8 a. 11½.—Tenn. 8 a. —; N. Car. 8 a. 10.—Up land 8 a 11.—WHEAT, hds. 1st p. 31½ a 32; in bbls. 33½ a 34.—Wool, Washed, Prime or Saxony Fleece 50 a 60; American Full Blood, 45 a 50; three quarters do. 40 a 45; half do. 35 a 40; quarter do. 30 a 35; common 25 a 30. Unwashed, Prime or Saxony Fleece, 30 a 35; American Full Blood, 27 a 30; three quarters do. 25 a 27; half do. 22 a 25; quarter do. 20 a 22; common, 17 a 20 Hens, Russia, 10, \$220 a —; Country, dew-rotted. — a 7b. lb. water-rotted, 7a 8c.—Feathers, 36 a 37; Plaster Paris, per ton, 4.25 a —, ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for forges, per ton 38.00 a 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.00 a 5.75.—Oak wood, 3.00 a 3.25.—Hickory, 4.50 a —.

CONTENTS OF THIS NUMBER.

Editorial: White Tree Onion and Potato Culture; Cottage Flower Garden.—G. B. Smith on the Onion of Rhubarb—Foreign Markets.—An Address to the Essex Agricultural Society, delivered at Andover, Mass. 29th September, 1831, at their Annual Cattle Show, by Henry Colman, concluded.—Summer Fallows; Expense and Profits of Cultivating Land.—Notices of Large Trees in the United States and in Canada.—Utility of Ploughing and Hoeing.—Value of Turnips.—Letter from Dr. Mease giving the result of his Experiments with Chinese Silkworms.—Worms in Stone Fruit.—Sowing Radishes.—Clearing Bushes.—To make Poposee.—On the Improvements of the Breeds of Swine; Pedford Breed To free milk and Butter from the taste of Garlic, &c. Emptying Ponds.—Economical Bread.—Housekeeping in Germany.—S. S. Griscom's Meteorological Journal for July.—Advertisements.—Prices Current of Country Produce in the Baltimore Market.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, basement of Barnum's City hotel,) by I. IRVINE HITCHCOCK, on the following

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged by the year, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the Publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

For All Postmasters are requested to act as agents for the Farmer, they are authorised to retain 1¢ for each new subscriber, and 10 per cent. on all other collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, AUGUST 24, 1832.

ARACACHA.—We publish in another part of this number, an article on the subject of Aracacha, from the Massachusetts Agricultural Repository and Journal. This article we presume is from the pen of the Hon. John Lowell of Massachusetts, as we know of no other member of the Massachusetts Horticultural Society whose report of the result of his experiments with aracacha we have noticed. We were much surprised, on reading the article, to find that Mr. Lowell construed our remarks on his former publication in a sense very different from that intended by us—he supposes we considered his remarks in some degree an impeachment of the value of our exertions; this we do assure Mr. Lowell never once entered our minds, and if any part of our article bears such a construction we are truly sorry for it. On the contrary, we felt very much flattered with the disposition made by the Horticultural Society of the roots we sent them, nor were we less so with the exertions made by Mr. Lowell in the experiment, though the result proved contrary to our hopes, but not altogether adverse to our expectations. If Mr. Lowell will refer to our letter to the Massachusetts Horticultural Society, he will find that we did not much expect the aracacha to succeed so far north. In that letter we remarked—"I am somewhat fearful that your season will not be long enough to allow the roots to attain a proper size." (See proceedings of the Massachusetts Horticultural Society, page 45, vol. 13, American Farmer.)

We concur fully with Mr. Lowell, that it is "as solemn a duty of every cultivator to announce to the public his failures, as well as his successes," in all experiments. For, while the publication of successful experiments contributes to the profits of cultivators, that of failures saves them from loss of time and expense in like experiments. We also concur with Mr. Lowell, that his experiment was a fair one, and he will see by reference to the letter indicated above, that the result of it was not altogether unexpected by us.

As to our experiment, which Mr. Lowell alludes to in a style of somewhat questionable courtesy, it may be remarked, that we did succeed beyond our expectations, notwithstanding we did not "raise one bushel fit for the table." We never expected to raise edible roots from the first year's planting—it would be as unreasonable to expect such a result as it would be altogether unparalleled. Mr. Lowell is surely aware, that all plants require a considerable length of time to adapt themselves to a new climate; more especially so when the new climate is so widely different from that of their native country, as in the case of the aracacha. And it is with no little surprise that we find Mr. Lowell recognising this very principle in a subsequent paragraph, after having enquired of us whether we raised "one bushel fit for the table," plainly implying that if we were as successful as we had announced, we ought to have raised perfect roots the first year. We gave it as our opinion, derived from our experiment, that "aracacha may be raised as easily as the parsnip." Did we not also plainly say that this could not be expected till the plant should have become acclimated? Indeed Mr. Lowell is unreasonable in his expectations of the result of a first attempt at cultivating this plant, and we must add, altogether inconsistent with himself. He says—"any vegetable to be of permanent value, should at least yield eight fold. The sweet potato, even here, yields ordinarily twenty-five fold, or one bushel yields twenty-five. The Irish potato yields from ten to fifteen fold. If then, this new acquisition had yielded even eight fold—and if it did not it would not merit cultivation—why have we not the evidence of

its goodness and abundance for the table?" We most truly regret the necessity we find ourselves under, of saying that the sentence just quoted from Mr. Lowell's article, evinces a spirit in relation to us and our attempt to introduce the aracacha, altogether inconsistent with that professed in the former part of this paper. We would ask Mr. Lowell, if the sweet potato yielded twenty-five fold the first year after it was brought from its native climate? Does not the Irish potato brought from South America, require several years to adapt it to our northern climate, before it will yield ten or fifteen fold? Can Mr. Lowell point out a single exotic plant that will promptly adapt itself to a new, very distant, and very different climate, and yield a profitable crop at the first attempt at cultivating it?

We are compelled to say a word or two on "the most discouraging fact which has yet attracted Mr. Lowell's notice"—the statement of Wm. R. Prince, Esq., that their establishment had cultivated aracacha for several years without difficulty." From this statement of Mr. Prince, Mr. Lowell considers it "clear that it never can be cultivated with success as a common culinary vegetable. It would have spread before this time throughout the state of New York." At the time Mr. Prince's statement appeared, we intended to have asked Mr. P. for an explanation, as it really was calculated to do the aracacha an injury.—Mr. Prince has cultivated the aracacha, it is true, but he has cultivated it in pots in his hothouse and frames, in which it never can be made to yield edible roots. With Mr. Prince it has merely been kept as a curious plant, yielding but a very few offsets, and never was attempted to be cultivated as a culinary vegetable. We were at Mr. Prince's establishment last October, and then saw the aracacha in *small pots*, in a frame—the very roots we had presented to him. These plants had scarcely grown an inch, whilst ours from the same parcel as those of Mr. P. had grown more than twenty fold. After this explanation, we ask Mr. Lowell if this is fairly to be considered "the most discouraging fact," and if from it we are to infer that aracacha "never can be cultivated with success as a common culinary vegetable?"

We must remark here, in relation to our own experiment, that although we succeeded as well as we had any reason to expect in cultivating the aracacha last year, we met with an accident in March last that almost annihilated our hopes. In removing from our former residence at that time, our roots reserved for planting were exposed to the severe cold of the night of the 17th of March, which destroyed the greater part of them. But we had about a dozen that escaped untouched, which are now growing thrifly, and we still hope yet to be able to present to Mr. Lowell one of the best vegetables he ever had upon his table.

Our Editor of the New England Farmer will much oblige Gideon B. Smith by copying these remarks into his paper.

A FINE CALF.—We have a bull calf, now four months old, that is really a prodigy both in size and form. We have seen many of all the different breeds, but never saw one of its age that would either weigh or measure with this one by one-third. There is a full blooded Durham Shorthorn bull that runs with him, *nine months old*, that will neither weigh nor measure with him by twenty-five per cent. He is heavier than a two year old Devon heifer that runs with him. His form is as remarkable as his size. His chest is deep, loins broad, ribs barrel form, breast full, hams square, and legs short and straight. His hair is long and silky, and color bright brindle on a white ground. The dam of this calf is a very large well formed cow of the Teeswater and Holderness breeds—the sire of the calf is of the same cross, which is said to be the origin of the Durham Shorthorn breed. We cannot judge of the quality of this cow as a milker, as she has always been allowed to raise her calves by suckling, but Mr. Sprigg of Washington county, Md. who

raised her, considers her and the breed equal in all respects to any other breed. The cow is a *buffaloe*, or hornless cow, and the calf will probably be the same, as there is no indication of horns as yet. We consider this calf the most valuable animal now in this country for improving stock, and he will be sold for one-half the price usually charged for Durham Shorthorns. The cow is six years old last spring, and the two will be sold together for \$175—or \$100 for either, if immediately applied for.

MANGEL WURZEL.—This root is not sufficiently known or cultivated in this country. Last spring we had prepared a piece of ground for early corn, but there being more than we wanted for that purpose, we split the lands and planted half an acre in mangel wurzel, dropping the seeds one foot apart. We have run a small plough through them twice, and hoed out the weeds once. Many of the roots are now eighteen to twenty inches diameter, and eight to twelve inches long. The piece of ground will undoubtedly yield a greater weight of food for cattle, than could have been obtained from it in any other vegetable. To insure the speedy and general vegetation of mangel wurzel seed, it should be soaked in warm water twelve hours before planting. The seeds of this, as well as all other beets are a long time in vegetating, and many never come up at all, when not thus soaked.

GREEN CORN.—The Editor of the American Farmer cultivates a variety of corn for table use of a very superior variety. It is about three weeks earlier than the early yellow, or golden sioux, sugar corn, or indeed any other variety we have seen. The grain is very white and of exceedingly fine flavor. The ear is not quite as large as some other kinds, but the grain is much larger than the early yellow. The stalks seldom grow higher than four feet to the top of the tassel, and we plant it from two to two and a half feet apart from hill to hill. We call it "earliest white corn."

CHICK PEAS, *Cicer arretinum*.—This is one of the most delicious vegetables ever placed upon the table, when served up like common green peas. The flavor of them resembles that of green corn and green peas mixed. They are not so productive as common peas, and are later; but their excellence fully compensates for these deficiencies. They are planted as other peas in rows, two feet apart, and cultivated like peas. The plants grow about a foot high, and resemble small locust trees. They do best in rich sandy loam, in a high situation.

THE BLOOD CARROT, is incomparably the best of all the varieties of this root. It is very sweet, much more tender than any other, and not so hard to digest. This is the only carrot we ever allow to reach our table. The root is erroneously called *blood carrot*; it is more properly a deep purple.

(From the New England Farmer.)

In the "Memoirs of the Philadelphia Agricultural Society," vol. iii. page 120 of the Appendix, is a paper signed John R. Evans, which states, in substance, that posts in a fence will last much the longer for setting them with the tops down. In a note on this article the Hon. Richard Peters says,

I have experienced the truth of the fact above stated. I do not pretend accurately and satisfactorily to account for it. I conjectured, that by reversing the vessels in which the sap had been accustomed to circulate, whilst the tree was in life, the moisture drawn up by the sun, in vessels even of dead timber, was impeded by the reversed position. Had the posts been, as they generally are, placed with their but ends downward, the vessels designed for circulation of sap, might be filled with moisture from the air or earth. I never fanciful this conjecture may appear, the fact mentioned by Mr. Evans, is important, and proved in many instances.

R. PETERS.

AGRICULTURE.

(From the Southern Agriculturist.)

ACCOUNT OF AN AGRICULTURAL EXCURSION IN THE SPRING OF 1832.

BY THE EDITOR.

(Continued from page 156.)

In passing from "*Withywood*" to "*Campvere*," after a short ride, we entered into the road leading to Clement's-ferry, and continuing down, passed several rice plantations situated on the same swamp; soon after leaving the last, (Mr. H. Rose's) it is necessary to cross the country and get into another road leading from Clement's-ferry, along the eastern branch of Cooper-river. The road which connects these two, passes through a tract of country thickly wooded with pine, interspersed with a few scattering oaks. It appears to be principally a pine barren and unfit for culture; we, of course, speak only of that part through which our road lay. As soon as the river road is reached, we again turned to the north, and a drive of a few miles brought us to "*Campvere*," the residence of Col. John Bryan, situated on the eastern branch of Cooper-river.

We had the pleasure of finding Col. Bryan and the other members of his family at home, and were most hospitably received by them. The first afternoon was spent in viewing the shrubbery and inspecting a new and excellent rice-mill which was completed last fall. The next day was devoted to an excursion over the rice-fields: the cold weather had backed the crop very much, and the late heavy falls of rain, accompanied as it was with cold weather, had proved rather injurious. Although a part had been sown some time, yet it was but partially up, the whole crop was not in, and in consequence of the rains, the hands were employed in listing and bedding the ground for corn, instead of planting the rice crop. We walked over a large portion of the squares, and were very minute in our inquiries, to which we received very full and satisfactory replies; but as Col. Bryan has consented, at our request, to give a detailed statement of his whole course of culture, we deem it unnecessary to enter into any particulars, as it will be done so much the better by him, and we hope he will be minute in his directions, conscious as we are, that they will prove interesting and valuable, not only to those who have attended to this crop for several years, but more especially to those who are either just commencing, or are situated in those sections of country where the culture has not reached the same degree of perfection.

We are much in want of a treatise on the culture of rice, which may be considered elementary, for although we have published much on the subject, yet all of our writers have started, with the supposition, that much is already known by the reader, and they have generally, merely communicated the common courses of culture, without stating by what rules they are governed, and what alterations they would make in certain contingencies to which this crop is exposed every year. In consequence of which, these communications are by many considered defective, for although, no crop among us has had more attention paid it, and the culture of which has been more improved, of late years, yet there is none, for which general directions are so illy adapted. Every operation from the first breaking up of the land to the harvesting of the crop depends on certain contingencies which are apt to vary, and consequently, require variations in the course of management, hence it happens that no directions for the culture of this crop can be implicitly followed, unless these are noticed and guarded against. But as they have not generally been attended to in these several communications, the young planter, who relies on them, finds himself unprepared for these emergencies, and consequently either acts in the dark and oftener injures his crop than

benefits it, or is obliged to have recourse to some older and more experienced planter. There is no crop which requires more skill and science in its culture than this, and although it has been much more improved than any other, yet, it is far from being perfect. Numerous experiments are still necessary to settle the disputed points, (which are not a few), and there are many practices which are now considered as settled, which in the course of time, will be materially altered. It is to supply some of the omissions referred to, by us above, that Col. Bryan will direct his attention, and he will, therefore, enter into a minuteness of detail, which to many may seem unnecessary, but which we have specially requested of him, knowing as we do, that both his experience and the situation of his plantation will enable him to furnish us with what we have desired in full.

Although we shall not for the reason stated, give the management of the crops on this plantation, yet we cannot leave it without noticing more in detail than we are in the habit of doing, or than we intend generally to do the beautiful order in which we found it, and the general arrangement of the place. Our readers will, we hope, pardon us for giving them a description of "*Campvere*," and a short account of its arrangement.

The public road runs along to the south of the mansion, about a quarter of a mile distant, and in sight. The gates open immediately on it; entering through which, you pass along an avenue of large and beautiful live oaks, seventy-five feet apart each way, which are continued from the gate to the lawn, immediately in front of the house. On either side of this avenue, and distant about thirty or forty feet from the rows of oaks, are hedges of the Cherokee rose, planted on banks, and of considerable height.—Beyond these are two small fields of ten acres each, which being kept constantly under culture, have a neat appearance, and add much to the beauty of the whole. Driving through this avenue for a quarter of a mile, you arrive at a lawn, which is almost a square, containing several acres, coated with a thick turf of grass, and studded with large live oak and other trees, the former by far the most numerous. Immediately in front of the avenue, and to the north of the lawn, but partly concealed by some of the oaks, is the mansion, a large two storied wooden edifice, with a piazza on the south front and a portico on the north. To the east of the house forming that side of the square, are a carriage-house, stables, cow-house, &c. whilst the western side is occupied by other offices.

On both branches of Cooper-river, as far up as it is practicable to cultivate rice, the whole of the swamp is cleared, and under culture, so that in passing down them, an almost uninterrupted succession of fields and settlements are presented to view. These even in the dreary months of winter present handsome views; but when covered with the rich luxuriant crops of rice, extending from the high land, even to the margin of the river, whilst the sloping grounds in the rear are covered with crops of waving corn, potatoes, &c., and the back ground is relieved by the dark masses of wood, which every where meet the eye, and are varied in their shades, by their approach or recess from the river, and the numerous clearings which indent them, forms *un tout ensemble*, which is scarcely excelled in this state, for loveliness and luxurious appearance.

What we have here detailed is common to both branches, and are enjoyed in a greater or less degree, from each plantation. None of the views, however, which we saw, equals that from "*Campvere*," especially when seen from the north portico of the mansion. Immediately at your feet you behold a beautiful shrubbery, tastefully laid out and filled with many choice exotic plants, and a large number of our own beautiful indigenous shrubs and trees. Beyond this are seen the corn and rice-fields, the river, and near to it, a new and handsome mill recently erected by Col. Bryan. Extending the view beyond the river, you

behold a continuation of rice-fields, for several miles up and down, the whole interrupted but by one small parcel of highland, running down to the river, and abruptly terminated by a steep bluff, which gives a variety to the whole. Looking to the west, the first place seen is the "*Hut*," the residence of W. Harleston, Esq., and next to it Bonneau's ferry, which is rendered interesting by the number of passengers crossing, who can be seen as they drive to and from the boats. On the highland, almost immediately opposite, appears the "*Villa*," owned by J. F. Bonneau, Esq. which with its various buildings are fully exposed to view, and presents a handsome appearance. A little higher up the river is seen "*Richmond*," the residence of Mrs. Rutledge. The mansion is placed on a high and commanding hill, crowned with numerous large live oak trees—from the house the ground slopes rapidly to the rice-fields, and presents a beautiful green lawn, here and there relieved, by single trees.

Ascending the river, on the same side, and adjoining each other are seen in succession, the fields and buildings of "*Farmfield*," the residence of Thomas Corbet, Esq. "*Bosses*," of N. Harleston, Esq., and "*Hyde-Park*," estate of the late Isaac Ball. "*Limerick*," situated at the head of this branch, is also partially seen. Following the river down, you behold on the south side "*Longwood*," the residence of Alfred Huger, Esq., and the "*Middleburgh Mills*," and settlement, owned by Jonathan Lucas, Esq., and which adjoins Campvere. To the west are seen the "*Blessing Plantation*," and the "*Hagan*," the residence of Major John Huger, situated at the "T," as the fork of the river is called. Owing to some woodland, which remains still uncleared, the plantations situated on French quarter creek, cannot be seen.—Extending the view beyond the "*Hagan*," the plantation of Col. William A. Carson, distant about twelve miles, is seen with its mills, houses, &c.

After viewing the landscape, which we have endeavored to sketch, the visiter will not fail to descend and examine the shrubbery, which we have adverted to, but which deserves more than the passing notice we have bestowed. This is the largest we have seen in the southern states, occupying as it does about five acres of ground. The whole has been designed and executed under the direction of Mrs. Bryan, to whose taste and skill we bear most willing testimony. It is situated principally on the north front of the house, but also extends around, so as to embrace both the east and the west ends: from the lawn in front of the house it is separated by a light open railing. A gate on either side of the house permits ingress and egress to and from it. Descending from the steps of the portico, you arrive at an oval bed which is kept in grass, and on which there are a few artificial baskets surrounding some exotics. In several other parts of the shrubbery, these baskets are also to be met with. In front of this is a short avenue of poplars, which form the only straight path in the whole. The rest of the ground is laid out in what is termed the *natural* or landscape style of ornamental gardening. The several walks intersect each other in different parts, some gently winding through the shrubbery towards the lower part, whilst others are made to descend by flights of steps. The different compartments are filled with exotic and native shrubs, judiciously mingled, whilst honey-suckles, woodbinies, and other vines are not wanting to add interest to the whole.—Nor is the beautiful family of roses omitted. In several places the visiter meets with them, and they are to be found also, collected in a rosary, near the northern boundary of the shrubbery, and at the foot of the hill.

The eastern part is not yet completed, but is progressing, and a large portion of it is already planted. On a high and commanding hill, it is proposed to erect a prospect tower, which will not only add much to the appearance of the whole, but afford a more extended and varied view. At the bottom of this hill,

extending more towards the west is a lake, which is now a handsome appendage, but will be much more so, when it is adorned with a small boat with sails and flags, which we understand will in the course of time be added. To all lakes so situated as to be seen from the house a boat should be considered as a necessary appendage, and if she is moored near the centre with a long chain of rope, and the sails hoisted, she will continue sailing about the whole time, and add much to the beauty of the scenery.

In the formation of her shrubbery, Mrs. Bryan has employed twenty-nine varieties of indigenous, and upwards of forty varieties of exotic shrubs and vines, and is constantly adding to her collection. As the family reside here only during the winter and spring months, her chief desire has been to have the shrubbery composed of evergreens, or of such deciduous trees as flowered early in the spring. Trees are admitted very sparingly, lest when they grow up, any part of the prospect should be hid; we think, however, some of the more elegant of our evergreens might be admitted, without destroying the beauty of any part of the scenery. Some of the more open spaces are ornamented with flowers—the edges of several of the walks are bordered with them also. The kitchen garden we did not examine, it is in a separate enclosure, containing about two acres. A road leading to the rice-field and mill runs between the shrubbery and it.

Should the visitor return into the house, he will find full employment for many a rainy day, independent of the social intercourse of the family, in inspecting the numerous prints which decorate the walls of each of the sitting rooms, and when these have failed him, a well stored library is open for his perusal.

The rice lands of Cooper-river are an extremely light vegetable mould, of considerable depth, resting on a clay substratum, the grain produced on it, although good, does not rank as of the very first quality, owing to what is termed its chalkiness, which is a small white mealy spot on the grain, with the exception of this, it is considered as prime. On some plantations this is scarcely apparent, whilst on others it is very much so.

The average crops on Cooper-river, exceed two barrels and a half of 600lbs. each per acre; three barrels is considered as good, but a still greater quantity has been repeatedly made on particular plantations. The highlands adjoining the rice-fields are generally poor, and until a few years back were but little cultivated, the consequence of which was, that most of the planters were obliged to purchase provisions for their plantations. A different policy has of late been adopted; these lands have by the aid of manure been rendered productive, and there are now many planters who never purchase a bushel of corn for the use of their plantations.

(From the Genesee Farmer.)

STATE OF AGRICULTURE.

Notwithstanding the ridicule which is occasionally attempted to be cast upon the "march of intellect" of the present age, the fact is undeniable that intellectual advances have been made, within the last few years, replete with importance to man. The sciences have many of them been extensively applied to the practical business of life, within that period, with a success that has changed the courses of trade and pursuit, and measurably at least, remodeled society. The science of chemistry, for instance, has, as it were, within our own recollection, been virtually created. Yet how extensive are its influences upon all our pursuits? Natural Philosophy, too, is now studied for its practical benefits, rather than in support of theories—and so of the others.

Amid this general effort for knowledge in most of the demonstrative sciences, the question is often asked, why *Agriculture* is forgotten? I need not attempt to prove that *Agriculture*, as a science, is neglected.

It will not be denied that it is, at best, stationary, if not actually retrograding, while all other of the practical sciences are assiduously cultivated. No one hears our agriculturists, generally, conversing upon the kinds of soil best suited to this or that species of crop, of the improvement of their stock, by change of breed or treatment; the relative value of various modes of culture, of rotation in crops, and the like. Not these are not their themes. They seem to fear the application of science to their pursuits—they have a dread of looking into a book or a paper for intelligence respecting farming. The almanac, indeed, they do consult, for coming storms—a piece of superstition which has maintained its hold upon their minds astonishingly—and they will often tell you that certain vegetables must be planted in the *old* and others in the *new* of the moon; forgetting that they plant in the earth and not in the moon.—The same man will "breathe upon a knife blade," to ascertain its temper, and is careful to wear all his calves "when the sign is right." So great is the dread in this particular, that even your own excellent paper owes much of its support to the inhabitants of our villages, who have no direct interest in its contents, but who subscribe to help to maintain its existence until the farmers, to whom it is invaluable, shall have learned its importance; and become its patrons. There is no lack of reading, in community, perhaps, such as it is, for newspapers abound among us, and are sustained, although they are read by many more than pay for them. But the newspaper reading of the present day, among us, with moderate exceptions, is of little practical value. Most of our papers are conducted with sole reference to party political effect; and among our farming interest political demagogues continue to maintain a fever heat, constantly, upon party subjects. By means of presses which they control, these men keep up an excitement in the minds of all, and the subject of this or that man's election becomes so constantly the theme of all, that finally all seem convinced their interest, nay their very existence, as a people, depends upon the elevation or depression of a particular politician. This, then, becomes the farmer's theme; and morning, noon and night he dwells upon it, with burning zeal; while all the details of his own science are never learned by him, or taught to his children who are to succeed him. This is the true cause why the science of Agriculture, the most noble of all the sciences, in some respects, is left in the hands of quack professors. If Agricultural missionaries were as plenty and as zealous as political ones, how widely different would be the condition of our yeomanry! The party reading of our day adds nothing valuable to a man's stock of information: in fact it may be said to diminish that stock. The writers of such reading labor only for party objects—they have no truths to establish or principles to maintain; their whole art consist in lauding one set of men and decrying their opponents; and the whole has been so nearly reduced to a *set form* that very little effort, and still less intelligence is necessary to accomplish the weekly or daily task.

Thus to attack public prejudices may seem rash, but I certainly have truth upon my side.—Any observer knows my position to be correct; and that the neglect of the science of culture, for that mere shadow of a substance, party politics, with its noise and its mental prostitution, costs this nation as many millions as would support it in a continual war with a rival power. Illustrations of this abound on every side. Soils so compounded as to render it *impossible* they ever should yield wheat abundantly, are almost yearly sown with that grain, through the whole life of the owner, and at his death the lands pass to his heir, who perpetuates the practice of his father. Now, half as much reading as that man has wasted in a single year upon party rancor, if properly bestowed, would have shown him that his farm, which he has ever condemned as "poor land," would have yielded him perhaps twenty times the income it ever did, had he appropriated it to grazing instead of wheat. This is

true of almost every branch of husbandry. The nature of soils, that is, their constituent parts, and the proportions of these, must be known, and the crops best suited to them learned, before the husbandman can be fully rewarded for his labour. To know this *well*, as it should be known, and also to know all that can be known of the results of all the possible variety of tillage, change of stock, its management, &c.—in short, to know, thoroughly, the business of a farmer, is the labor of a long life and until our farmers devote *most* of their time to their professional science, and to chemistry, geology, mineralogy, and its other kindred sciences, little improvement is to be expected at their hands. This can be effected only by inducing the farmer to exchange his political reading and conversation for that which is more important. Let him exchange his political for a good Agricultural paper, and the reform, with him, is fairly begun. In one short year he will wonder as much as any one how he could have been kept so long feeding upon the husks of party strife to the neglect of useful pursuits. For myself, should I be able to work such a change in the reading of any man who owns a farm, I should feel that I had rendered society a greater service than can arise from all the labors of a party zealot, for whose gratification a whole neighborhood is frequently agitated for half a year. H.

GEN. HUMPHREY'S ADVICE TO YOUNG FARMERS.

1. It is taken for granted you have farms, of larger or smaller dimensions. Farms must be open or inclosed. There is no other alternative. Respecting inclosing, about which they have lately made such a terrible fuss in England, I shall tell you plainly and plumply what may, perhaps, help you out of your quandary. I have been in countries where there were many, and where there were none; and did not learn that the people and cattle lived longer, or grew fatter, in one than in the other. Therefore I take it both are equal in point of advantage; in expense not so.—Fences cost money. Money is scarce, and had better be applied to a hundred other purposes; for example, at the merchants and grocers, for gewgaws and grog. A hint to the wise. I see to whom I nod.

2. If you have a large farm, scratch it over as much as possible. Your neighbors will think you are doing wonders. You will not have much labor or expense in gathering your harvest. To reduce labor and expense to their minimum in any thing is a desideratum. (I think I shall have a patent for this.) Besides, great crops are great robbers of soil. As moral men and good citizens, you must discourage robbery.

3. If your farm be small, do not raise great crops, to make mischief by getting into the newspapers, and provoking envy in your richer neighbors. Envy is an odious amiable passion. If you are the cause, you must be answerable for the consequence.

4. Do not use manure to enrich land, as if you could mend nature's works. Rather imitate the conduct of the cleanly Dutchmen in Albany, who, if report says true, "sleed it out" from their barn yards and lay it on the ice, so that it may go off with the first thaw. Every body knows muck—another appellation for filth—is offensive to the sight and smell, and a perfect nuisance. Pray, why, otherwise, should the police of well regulated cities insist on getting rid of noisances?

5. Plough not frequently nor deep. It will fatigue yourselves and team. Fatigue is the worst plague in the world. All dislike it cordially.

6. Weeds are the aboriginal occupants.—Grow they will. Grub, pluck, apparently destroy them—they come back, as if they knew by instinct you had no right to expel them. You had better mind your business and let them alone at once and be done with it. You will save a deal of trouble.

7. As to tools and instruments of husbandry the worse the better; because the worst are the cheapest, and you will be least injured when they are broken,

worn out, or lost. This must unavoidably happen. Every thing goes to decay, and must be renewed.—Leave your implements and utensils for farming—such as ploughs, harrows, chains, hoes, axes, scythes, forks, and rakes, where you leave off work.—They will be ready for next year. That is economy of time. "Time is money," Dr. Franklin says. So you see you save money.

8. When you borrow never return the borrowed articles, they may be wanted again. Your neighbor can make a shift to do without them or he would not have lent them. Besides, it takes time to carry them home. He has as much as you. If he does not come or send for them, they will be as useful to you as if they were your own.

9. Never put back into its place a rail or a stone that has fallen from your fence. Ten to one, these, or others equally slippery and treacherous, will trouble you again by their falling. At all events delay as long as possible. Parry trouble. Instead of its being repeated, make one job when you can stave it off no longer. And supposing your neighbor's creatures eat your crop—it will do them some good and save you the sweat of harvesting.

10. Never commence your farming business early; just as if you wouldn't find plenty to do, begin as late as you will. Farming is hard work for lazy folks; and hard work is not easily done—let me tell you that!—as a sturdy beggar once told me.

11. In not changing seeds and in sticking to the same crop on the same ground, without replenishing with alliment to feed vegetation, follow your forefathers' wisexample. Do you think yourselves wiser than they! Pretty story, truly! at this time of day! O, tempora! O, mores!—Oh, shame where is thy blush!

12. Do not put your meadows in too good heart.—There will be no end to hayting. To carry forage into the barn all summer, and to carry it out all winter, is a burden neither you nor your forefathers could bear.

13. Short pastures make fat sheep. Keep yours so by hook or by crook. The shortest way is to overstock and impoverish your farm. Sheep know what is best. Other beasts have nobusiness to complain, or know more than that most useful animal.

14. Keep the cheapest and least valuable breeds of cattle you can. The loss is less if they die; and die they must; be they canivorous, granivorous or graminivorous. No matter what they eat. They are grass, for all flesh is grass; and grass is perishable as all you, young gentlemen, who have studied chemistry, could doubtless demonstrate.

15. In feeding your cattle, I need not tell you the less you give them, the cheaper you keep them, but one thing I must suggest, the more lavishly you deal out your fodder, the sooner the drudgery will be over.

16. Depend without overseeing them, on the fidelity of your day laborers. There is an old story about hirelings. Now, as in days of yore, they wait for the sun to go down. Poor things! They wish to go home. Perfectly natural! It is a sign they are quite domestic; which, you know, is an exceedingly good quality, in the family way.

17. If you must hire steady help, take the first vagabond you meet. It will be a cheap bargain, for probably he will go off unpaid, and only carry some trifles with him which you don't want very much; and will not miss until he is gone.

18. You should prove your indoor economy to be equal to that without, by adopting the proverbial system of saving "at the spigot whilst you let your liquor run profusely out at the bung. Seeing that wholesale is better than retail; and both together best of all."

19. Consult ease and convenience in the house as well as out of doors. What a blessed thing to be, in all weathers, easy as an old shoe, as the saying is!—Do not repair the breaches in the roof or sides of your dwelling or your barn in good weather. It would be

a waste of the only season that is fit for field labors. In foul weather you have a good excuse for not exposing your health. A leak may be easily stopped by putting a few good-for-nothing rags into it. When dried they will be improved for the paper maker, and may be sold at the tavern, for rum, whiskey, flip or toddy. No fear for rags; you are in a fair way to have enough more. Idleness is said to clothe a man with them. Worst come to worst, you must be badly off, if you cannot move your chair or bed, to some spot where the rain will not wet you much for one day or night. The storm cannot probably last but for some twenty-four hours. A mere trifle compared to the whole year! You will literally obey the command "to take no thought for the morrow," and so you will get along well enough. And it is strange if your cattle in the stable, should be more delicate than their owner, in his shed.

20. Live snug. Preserve the old habits, with which you are covered, as modern heroes are with glory. In good sooth, those who make such a pudger, and hue and cry after your blue laws and blue lights, do sometimes twist you about your antique and steady habits.—Now, I count, habits are commendable or discommendable, only as they were good or bad. And using my Yankee privilege, I rather guess are somewhere about as good as those of your neighbors, who try to make a game of you and jeer you so.—And as for that foul witch, Innovation, since she broke loose from the buttering house, where she made a pretty good servant, whilst kept well under by the good old governess, mistress Reform; I say, now, this ugly young creature is only busy turning the world right upside down, under the modish name of improvement. Shun her as you would the gallows. However, when a change be made, positively for the better, contrary to all prescriptive usages, I do not mean to tell you for certain, these institutes do absolutely prohibit it. In vain will some of your smooth-chinned Tyroes call all this *stuff*, and some of it too whimsical and ridiculous to have been tried. You novices know nothing at all about it. We grey beard idiots know better; since we have practised it ourselves. Truth is truth, and true it is "such things are."

TURNPINS.

It will be well to sow soot, ashes, lime, or a mixture of two or more of these, over your turnpins. Ellis, an old writer on husbandry, says, "Turnpins sooted about twenty-four hours after they are up will be entirely secured from the fly." Some advise, and it may be well if not too much trouble, to leach soot and sprinkle the young turnpins with the liquor. McMahon, in treating of the cultivation of turnpins, says, "the plants should be left from seven to twelve inches every way; this must be regulated according to the strength of the land, the time of sowing, and the kind of turnpins cultivated; strong ground and early sowing always producing the largest roots."

"The width of the hoe should be in proportion to the medium distance to be left between the plants, and this to their expected size.

"The critical time of the first hoeing is, when the plants, as they lie spread on the ground, are nearly the size of the palm of the hand; if, however, seed weeds be numerous and luxuriant, they ought to be checked before the turnpin plants arrive at that size; lest being drawn up tall and slender, they should acquire a weak sickly habit. A second hoeing should be given when the leaves are grown to the height of eight or nine inches, in order to destroy weeds, loosen the earth, and finally to regulate the plants; a third, if found necessary, may be given at any subsequent period.

"Here will the farmer exclaim against the expense and trouble of hoeing; but let him try one acre in this way, and leave another of the same quality to nature, as is too frequently done, and he will find that the extra produce of the hoed acre, will more than compensate for the labor bestowed."

Loudon says, Arch. Garrie, a Scottish gardener of merit, tried steeping the seeds in sulphur, sowing soot, ashes, and sea-sand, along the drills, all without effect. At last he tried dusting the rows when the plants were in the seed-leaf, with quick lime, and found that effectual in preventing the depredations of the fly. "A bushel of quick lime," he says, "is sufficient to dust over an acre of drilled turnpins, and a boy may soon be taught to lay it on almost as fast as he could walk along the drills. If the seminal leaves are powdered in the slightest degree, it is sufficient; but should rain wash the lime off before the turnpins are in the rough leaf, it may be necessary to repeat the operation if the fly begins to make its appearance."

CHEAT OR CHIESS.

Mr. SMITH: ... *Parsonville, Maine, Aug. 8, 1892.*

Having made some suggestions, published in the American Farmer, on the 24th of February last, in relation to the opinion prevalent among our farmers in Maine, that winter wheat turned to rye, as analogous to the opinion advocated by some of your correspondents, that wheat under certain circumstances changed or degenerated into chess or cheat, I wrote you for two purposes—one to say, that the wheat I mentioned as having sowed last fall is now nearly ripe, and that not a head of rye is to be seen among it. The other purpose is to inquire if the enclosed is what is termed cheat or chess. I found it in the yard about my house among some orchard grass I sowed there the spring before last, the seed of which I procured in Boston, and which, I presume, was raised at the south, as it is rarely seen at the north, and but recently, and in small quantities. If this be chess, I would inquire if it usually heads the first year, or like orchard grass and winter grain, requires more than one season to bring it to maturity.

I found but few heads.—No wheat ever to my knowledge grew where this sprung up, nor is there any within fifty rods of it. The plant I never saw before, and I only conjecture it is chess. My neighbors have never noticed such before. Hence I conclude it came with the seed of the orchard grass.

Yours, &c.

REUFUS MINTIRE.

P. S. Some of my neighbors say that they have sometimes had with their flax, a weed called by some cheat, somewhat resembling this, but quite as much resembling what we called *dog-grass* or *witch-grass*, and known, I believe, in other places by other names. They easily get rid of it by cleaning their seed.

[The specimen enclosed in the above, is genuine cheat or chess—*Bromus secalinus*. It is an annual plant, and of course will ripen the same season; but it is also in this respect, like all winter grain, more productive when sown in the fall. The weed mentioned by Mr. McIntire, as sometimes found amongst flax, is probably the soft bromine grass—*Bromus mollis*, of the same genera as chess, and resembling it.]

[Ed. Am. Farmer.]

Why do wholesome mushrooms differ from other fungi?

Because, when a fungus is pleasant in flavor, it is wholesome; if, on the contrary, it have an offensive smell, a bitter, astringent, or styptic taste, or is even of unpleasant flavor, it is unfit for food. Color, figure, and texture cannot be relied on; yet the pure yellow, gold color, bluish pale, dark or lustre brown, wine red, or the violet, belong to many that are eatable; while the pale or sulphur yellow, bright or blood red, and the greenish, are generally poisonous. The safe kinds have mostly a compact, brittle texture, the flesh is white; they grow more readily in open places than in damp or wood-shaded spots. In general, those may be suspected which grow in caverns, on animal matter putrifying, as well as those whose flesh is watery.—*Bruide*.

HORTICULTURE.

(For the American Farmer.)

AMERICA.

Four numbers of an English work, entitled "America"—(22 to 25 inclusive) which is designed to illustrate the history and topography of the United States, were lately handed to me by a friend just arrived from the city. It is elegant, both in its engravings and typography; writers of talent have been employed, and a large part of the materials have been drawn from American authors. I select the following paragraph as a fair specimen:

"With respect to the climate of the United States, two ideas have been entertained which still demand briefly to be noticed. It has been conceived by some persons to have undergone a considerable change for the better since its colonization by Europeans. This idea may have originated perhaps in the same causes as a similar one respecting the climate of Europe; and it appears to be equally without foundation. On the contrary, there seems sufficient reason to conclude, that with whatever local and temporary variations, the climate is substantially unchanged. The winter, cold over the United States, as every where else on earth, is in direct intensity with height, latitude, and exposure; the interior states being more exposed to the influence of a central, elevated, and frozen table land, have winters much more severe than are experienced on similar latitudes on the Atlantic slope; and the interior summers are equally in excess. But if the general climate has not altered, it has been confidently believed, that as the country was cleared and the timber removed, the winters have become milder. That the clearing and improvement of a region may contribute to its salubrity we entertain no question, the ways being obvious by which such a result must be produced; but we agree with Mr. Darby in thinking that it leads to no elevation of temperature. 'Employed,' says this gentleman, 'ten or twelve years in exploring the prairies of Louisiana, I had ample means to test the seasons of a country naturally devoid of forest trees; and in the frequent, and sometimes not slight snows of Opelousas, N. lat. 30th, I, as early as 1805, became convinced that removing timber must produce the very reverse of melioration; and then suspected, what now is proved, that in very open countries the range of the thermometer must be augmented.' To this testimony may be added that of Mr. Duubar of Natchez, a close and very competent observer."

Our author might have more fully explained the effects of "exposure," to advantage. *Exposure* admits of other considerations besides those of a north or south, east or west, inclination: The currents of the atmosphere when equal in other respects, at different places will differ in velocity and duration; and that part of a prevailing wind which sweeps over an inland sea will be differently charged with caloric and moisture from that part which ranges over cultivated plains, or which rushes along the sides of a mountain. Again, the horizontal current which breaks on the brow of an isolated hill, will be different from the breeze which in sweeping the surface of extensive plains of the same elevation, has been warmed by the reflection of the sun's rays. Neither are the effects of rivers which flow into colder or warmer climates, inconsiderable.

It may be doubted, however, whether all these causes are sufficient to account for the great difference of temperature in winter, between the western parts of Europe and of Asia, in the same parallels of latitude.

More care is wanting to render this work as respectable in fact as it is in appearance. A mistake of one degree in the latitude of Natchez (p. 29) is no trifle in a publication of this nature, for the student is induced to look for its place on the map in Louisiana,

and not in the state of Mississippi where it actually stands. The following sentence is hard to be understood: "Primitive rocks are found in Indiana and Illinois, north of their hilly region, as in Ohio, south of Lake Ontario." Again: "The northern shores of Lakes Ontario and Erie, the western shore of Lake Huron, (the eastern shore of Lake Michigan is sandy and barren,) and the general surface of the valleys of the Ohio, the Illinois and the Mississippi, afford a highly productive soil." The shores first mentioned are not within the United States, which this work professes to describe.

These are only a few specks, however, on a wide surface. In describing our vegetable productions, the errors are more numerous; and it is to be regretted that this department was entrusted to other hands than those of a botanist,—for talent of the highest order will not compensate, when treating of these subjects, for the want of botanical acquirements. A part of these errors, however, must be ascribed to a want of care.

Passing over minor things, I come to these passages: "There are distinguished in the United States ten species of walnut." We have but two species of walnut.

"Throughout the United States, the common name of hickory is given to some species of walnut." In some districts that "common name" is not used at all. It is not in any district applied to any proper species of walnut. Formerly, those trees were placed by LINNÆUS in the same genus; but the impropriety is now admitted by the best botanists; and the hickories (*Carya*) are separated from the walnuts (*Juglans*). These genera are so distinct both in their fruit, and in the quality and appearance of the timber, that no farmer would ever mistake one for the other.

"Of the numerous trees of North America, east of the Appalachian mountains, none except the hickory is perfectly adapted to the making of hoops for casks and boxes." In some districts (at least) white-oak is preferred to hickory for hoops; and in other districts where neither oak nor hickory occurs, black ash is very extensively used for this purpose, although hickory might be cheaply procured.

"All the hickories are very heavy, and in a given volume contain a great quantity of combustible matter; they produce an ardent heat, and leave a heavy, compact and livid coal. In this respect, no wood of the same latitude in Europe and America, can be compared to them." The sugar maple has been shown by experiment to be equal in value as fuel, to the best hickory; and the black maple is not known to be inferior. In the Southern States "the smaller branches [of the live oak, says ELLIOTT] are generally used for fuel, and constitute in fact the best fire wood in our country."

"The use of the young hickories for hoops, and of the old for fuel, threatens the speedy extermination of them without much care; the more so, as they are of slow growth, and never sprout twice from the same root." We have no trees in less danger of extermination than the hickories. Where the farmer neglects to grub his fields, he has often to contend with those stools for years before they are subdued. I have a wood of fine thriving young hickories from old stools, on ground which was ploughed, sowed, and planted for several years before I concluded to let it become a wilderness.

"The work of making sugar from the juice of the maple is commonly commenced—while the cold continues intense." It is not the juice but the sap that yields sugar; and it soon ceases to run in freezing weather. The flow is confined to the period of alternating frosts and thaws,—commonly freezing nights and thawing days.

"Care is taken that the augers do not enter more than half an inch within the wood." Our best sugar makers bore an inch and a half, afterwards deepening to two inches and a half.

"It is usual to insert the tubes on the south side of

the tree"—only in the early part of the season. It is best to insert them on the north side when the tree is tapped late in the season.

"The sycamore [is] a species of maple." We have no maple known by that name in the United States. In some districts, the plane tree (*Platanus occidentalis*) is called sycamore, but it belongs not to even the same Natural Order as the maples.

"The white-ash is the largest species.—It sometimes attains a height of thirty feet." The blue-ash is probably not of less magnitude. The white-ash sometimes attains a height of one hundred feet. I felled one which was seventy feet to the first limb, and three feet diameter.

"The elms of the United States—are not of equal value with the common elm of Europe." Nothing is said of our red elm (*Ulmus fulva*) which yields very durable timber; nor of our newly described elm (*Ulmus racemosa*) which is abundant in some districts, and also a valuable tree for staves, for rails, and for timbers in building.

"A singularity has been observed in [the white-elm] which has been witnessed in no other: two small limbs four or five feet long, grow in a reversed position near the first ramification, and descend along the trunk." As a singularity such a pair of limbs may have occurred in the white-elm; but except in the styles, the dual number forms no regular part of the character of this tree. When other trees of the forest,—which by shading had caused its lateral branches to perish,—are cleared away, and this elm is left to stand alone in open sunshine,—new branches frequently start from the trunk, and clothe it from the ground to the upper limbs. This circumstance probably gave rise to that singular conceit.

He has evidently confounded the pitch-pine of the southern states (*Pinus palustris*) with the pitch-pines of the middle and eastern states (*Pinus inops* and *rigida*.)

"In the middle and southern states [the hemlock spruce] is seen only on the Alleghanies." It is found throughout the lower parts of Pennsylvania in favorable situations; and the great pine swamp which is far below the Alleghany, abounds with it. It is only in the southern states that it is confined to the Alleghany mountains.

He calls the locust tree an "Acacia," when it belongs not to the same natural order.

"Of the poplar, several species exist in the United States. Of this family is the tulip tree." The tulip tree is one of the *magnolia*, and not of the same natural order (*Amentacea*, Juss.) as the common poplars.

"When [the cotton wood] is cut in the winter, there gushes out a stream of water or sap, and a single tree will discharge gallons." Sap is only found in the alburnum, and not in the colored wood at the centre. If the liquid observed was water, it could only get there through some decay of the central wood; and consequently this phenomenon could not occur in sound trees.

"The popular name cotton wood is derived from the circumstance that it scatters on the ground a downy matter, in feeling and appearance exactly resembling short ginned cotton"—and which is nothing else than the flexuous hairs which surround the seed, and constitute a part of its generic character. When the seed is ripe, by laying the cylindrical aments end to end, these hairs are so combustible that fire will run rapidly along the train.

"The Magnolia [grandiflora] is undoubtedly a beautiful tree; but it seems to have been so extravagantly described by American writers, as to occasion disappointment when first beheld by a stranger in its native localities." Our author ought to have specified his charges. He ought to have named the writers, and the offences committed by each. He ought also to have given the character of their accuser. A sound mind untainted by Nostalgia, is not mentioned. He is simply called "a stranger." His qualifications to

judge of trees or of scenery, remain untold. He has gained the ear and confidence of our author, however, who straightway seems to decide that all American writers who have described the magnolia, have been guilty of extravagance,—for where none are exempted, all must stand implicated.

The following is the manner in which American writers have spoken of this tree: *Magnolia grandiflora*:

"This magnificent tree sometimes rises 70 or 80 feet in height, with a naked smooth columnar stem; and the head when not injured by accident is always regularly pyramidal, or semi-elliptical. From May to August, in favorable situations, it is almost always covered with its brilliant white flowers, terminating the young branches."—*The late STEPHEN ELLIOTT, Esq. of Charleston, S. C.*

"The most magnificent tree of the southern states, the trunk often presenting a living column of 80 or 90 feet elevation, almost unobstructed by branches, and terminated by a spreading top of the deepest perennial verdure."—*THOMAS NUTTALL, A. M. F. L. S. now of Cambridge, (Mass.)*

"This magnificent tree—attains a height of 100 feet or even more. The bright red bodies are the seeds suspended by a filament for some time after the capsules have burst. The trunk is often very straight, from 2 to 4 feet diameter at the base, with a greyish smooth bark.—The flowers are white, seven or eight inches in diameter." In another place—"arrayed in all the beauty of its splendid blossoms." Again—"The great magnolia shoots up its majestic trunk crowned with evergreen leaves, and decorated with a thousand beautiful flowers."—*JOHN JAMES AUDUBON, F. R. S. L. & E.*

The magnitude, form, and color of this tree, admit of dispute no more than those of a building; and extravagance is not a word to be applied to such matters. The statements are either true or false, and which, we are at no loss to determine. The effect of these trees will doubtless be different on different spectators,—it is the case with all ornamental plants; but the man who is never moved by such exhibitions of beauty, ought to be silent—the phlegm of his disposition ought to restrain him from intermeddling with things beyond his capacity to feel and to understand.

Again I have to notice the great want of botanical skill which arranges the holly, the "J Laurel almond," and the magnolia, together. They are very widely separated in different natural orders.

The dogwood "has a beautiful heart-shaped and crimped leaf, and an umbrell-shaped top." Our author appears to have mistaken the leaf of the *involucrum* which is chordate, for the common leaves of the tree which are ovate lanceolate.

"The dogwood is found every where from Pittsburgh to the Gulf of Mexico"—and for many hundreds of miles to the east, and to the northeast of Pittsburgh.

The dogwood "seen through the forests in blossom—is far more conspicuous for its flowers than the magnolia." [?]

The common papaw (*Asimina triloba*). "So many tastes are unexpectedly and whimsically compounded in it that it is said a person of the most hypochondriac temperament, relaxes to a smile when he tastes the papaw for the first time." [?]

"None of the (American cherries) produce eatable fruit." It is rarely that the birds allow the common wild cherry (*Prunus virginiana*) to ripen in the cultivated parts of the country; but in the ranges of the Allegany mountains where I have seen this tree 4 feet in diameter and 100 feet in height, and where fructivorous birds are scarce, these cherries become comparatively large and black, lose most of their bitterness, and dropping from the tree in autumn, are eaten with a good relish.

"The crab-apple when properly prepared makes fine cider." There is no disputing tastes.

"The mulberry is of rare occurrence in the Atlantic States." This is a mistake.

"The experiments hitherto made [on the growth of silk] have had no very promising result." The number of our citizens engaged in this business is comparatively small; but those who have managed it for years would make a different statement.

Such remarks might be greatly extended. Justice requires me to say, however, that amongst these errors, there is much valuable information.

AN AMERICAN FARMER.

(From the Massachusetts Agricultural Repository and Journal.)

THE ARRACACHA.

Some notice of the Arracacha, and of the laudable efforts to introduce it into the United States.

To the Publishing Com. of the Mass. Soc. for promoting Agriculture.

GENTLEMEN—As the first attempt to introduce this valuable esculent root into the United States, as an object of garden, and possibly of field culture, has been made since the last number of your journal was published, it seems to me, that it would be unpardonable in the directors of your journal to omit any notice of this plant, and of the meritorious efforts to introduce it into our list of esculent vegetables. This plant is considered in the new South American states of Columbia, "as the most useful of all the edible roots, being superior to the common and sweet potatoes." In using this language, I must be understood to quote the expression of those, who have tasted it in its native country, and by no means to admit, that much of this preference, and of its reputation, is not due to the prejudices of persons who do not see the Irish potato in perfection. It is not certain, that the arracacha, could it be raised in perfection in the United States, would hold as high a rank here, as it does in Columbia. Still there can be no question, that it is a very pleasant and wholesome vegetable, and if susceptible of successful and profitable culture in the United States, it would merit great attention. It has, for some years past, engaged the attention of European cultivators, rather as desideratum, than as an object of decided hope, and assured culture. It has been introduced into Jamaica with, as it is confidently asserted, perfect success.

Although it had been tried in the state of New York, and the indefatigable proprietors of the Flushing Linnæan Garden claim the merit of cultivating it with perfect success for several years past, yet it was due to Gideon B. Smith, Esq. editor of the American Farmer, printed at Baltimore, to say, that he made the first extensive experiment to introduce this plant into general culture in the United States. We shall have occasion to refer to the experiments of the proprietors of the Linnæan Garden, in the close of our remarks.

Mr. Smith is unquestionably entitled to the merit, and it is no small one, of importing this plant, on a great scale, not for his own personal benefit, (for he seems to be superior to any selfish motives), but for the advantage of his country. He distributed his plants most liberally, with a view of testing their adaptation to the various sections of our country. While he transmitted a reasonable proportion to Massachusetts, he, at the same time, judiciously sent a share of them to South Carolina. It is my own private opinion, that if they shall be eventually found to flourish, and to attain a solid value, it will be in the two Carolinas, Georgia, and Florida, and Louisiana. The reasons for this opinion, besides those which are obvious, I shall state hereafter. The Massachusetts Horticultural Society do me the honor to transmit three plants of the arracacha to me, probably from the knowledge that I feel a deep interest in the cause of horticulture, and enjoy a great and unfeigned delight in new experiments, which promise, however faintly, the improvement of these invaluable arts. I tried these

plants. They arrived in the best possible order. They were in the highest state of health and vigor. They were planted in an excellent soil—watched with the greatest care. Their growth was rapid, vigorous, indicating the highest state of health. I felt assured, that the arracacha was adapted to our climate. I pointed it out as a successful experiment. Yet suddenly, without frost, or cold, or any perceptible cause, the leaves perished. Tenderer plants, plants of tropical countries, continued to flourish; but these failed. I could only indulge in loose conjectures as to the cause. I struck upon the heavy rains, as a possible cause; and knowing that South America was subject to severe and long continued droughts, perhaps my conjecture was not a very absurd one. Still it was but a conjecture, and I did not value it much. Long and repeated experiments, much patience, and great coolness, are required to the acclimation of plants—that is, in introducing into new climates and new soils, plants born and cultivated under others essentially diverse. Still, as a person entrusted with a new experiment, or a plant entirely new, and deemed of great value, a report from me, of my own experiment, was due to the Society, who had shown such a mark of its confidence. It was made,—the failure was detailed at large, and certain loose conjectures or suggestions were made as to the causes of failure. I was grieved, when I found that Mr. Smith, whose exertions I so much valued, seemed to consider my remarks, as, in some degree, an impeachment of the value of his exertions. Most assuredly no such intention existed. I considered the effort which he had made as entitled to the thanks of every friend of horticulture and agriculture. But I have always considered it as solemn a duty of every cultivator, to announce to the public his failures, as his successes. I have thought, after thirty years' experience, that *more evil* has resulted from too precipitate recommendation of new plants, and new processes in agriculture, than from the opposite defect—the cautious, even incredulous disposition of cultivators to admit new and manifest improvements. I really believe that my experiment on the arracacha had been so fair a one, and the season was so favorable, better than I had known for twenty-five years, that the failure must be attributed to the utter incapability of our soil and climate to mature this plant. Let us now see, how far the evidence before the public, supports, or defeats, or contradicts, the opinion thus formed.

In the first place, we will take Mr. Smith's own experiments, as detailed by him last autumn. We are promised new particulars, which he flatters himself will show, that the arracacha may be raised as easily as the parsnip—he might have said, as well as the common potato. Now what was his success? Did he raise one bushel fit for the table? If so, what was the quality and value of the root? Look, then, at Mr. Legare's minute and very clear and intelligent statement of his very careful and cautious experiments? Did he raise enough to make presents to his friends of this invaluable root? No. But any vegetable, to be of permanent value, should at least yield eight fold. The sweet potato, even here, yields ordinarily twenty-five fold, or one bushel yields twenty-five. The Irish potato yields from ten to fifteen fold. If, then, this new acquisition had yielded even eight fold,—and if it did not, it would not merit cultivation, why have we not the evidence of its goodness and abundance for the table? But, says Mr. Legare, the Chevalier Soulange Boudin states that it has been cultivated with success in Montpelier and Geneva! Ah! is this so? Could the potato be successfully cultivated in Montpelier and Geneva, and not be soon cultivated in Paris, if its products are sufficiently ample and abundant to render it an object of profitable culture? This fact, (if it be one) makes me distrustful of the probable success of this plant. But the most discouraging fact, which has as yet attracted my notice, is this. When I stated my total failure in the cultivation of the arracacha, William R. Prince, Esq.

immediately came out with a declaration, that their establishment had cultivated the arracacha without difficulty for several years past, and that he had transmitted many plants of it, raised by them, to Europe. If this be so, and we cannot doubt it, it is clear, that it never can be cultivated with success as a common culinary vegetable. It would have spread before this time throughout the state of New York. I knew a quantity of the common potato, which was brought from Philadelphia in a silk handkerchief, and in two years I received a barrel of it for seed, which gave me nearly fifty bushels.

Will it be said that the Messrs. Prince reserved every plant for profit, and could not spare even a mess for the Horticultural Society of New York to test its value in our climate? My answer is, that the tuberculous parts of the root, if in our climate it ever produces any, are not necessary to its propagation. It is only the crown and eyes which are employed. You may cut off the edible part in the dahlia, without diminishing its powers of reproduction.

What then, it may be asked, are your views upon this subject? Would you discourage the experiment? By no means. We rejoice that Mr. Smith has so much ardor and confidence. We wish we had a little of it. But we would respectfully suggest the expediency of planting some of the roots in pots and tubs, and placing them in a hot-house and endeavoring to raise seeds from them. Seeds sown here will be gradually accustomed to our climate, and may become hardy. Plants raised south of the equator, it is of little moment whether in a high or low latitude, retain for a long time their natural habits—that is, they grow in our winters, and perish in our summers. This is so true, that it is extremely difficult to change these habits even in plants which are now common to both hemispheres.

I will state one remarkable example. I received the golden potato of Peru, very celebrated in that country. Three successive years it has been fully and fairly tried by the aid of artificial forcing, and every advantage of location, but it obstinately refuses to bend its habits to our climate. It will start either in the fall, or if put in the hot-bed in April it will not produce its tubers till October. I have often reflected upon the curious fact, that the potato should have been so easily acclimated in Europe, when we now cannot acclimate the Peruvian, or even the California potato, both of which I have tried for three successive years. My explanation of it is this, that the potato spread by slow degrees from Chili to Virginia, during a period of perhaps one thousand years, and became gradually adapted to a northern latitude. It is clear, that the potato never was found in a wild or natural state in North America, and yet equally clear, that it was transmitted first from Virginia to Europe.

ONE OF THE TRUSTEES
Of the Mass. Soc. for promoting Agriculture.

(From the Genesee Farmer.)

CHRYSMOMELA VITIVORA.

Greatfall, 7mo. 25, 1832.

I lately referred to the *Chrysmomela vitivora*.—The following account of its depredations was written by NOYES DARLING, of Connecticut, and published in the New York Farmer of last year.

"This insect made its appearance last spring in New-Haven and its vicinity, but not I believe for the first time. Its numbers however were unusually great; and the injury which it has done to the vines, is wholly unexampled. Some vines were entirely despoiled of their fruit-buds, so as to be rendered, for the present season, barren. An Isabella that bore 300 bunches the last year, is now destitute of fruit. The ravages of this bug, were succeeded by those of a small chestnut colored smooth worm or slug, a quarter of an inch in length. The bug is supposed by some to be the parent of this worm."

In order to settle this question, we put about half a dozen of these worms into a tumbler, with moist earth and vine leaves, covering it closely. The earth was carefully examined to see that it harbored no other insect. Fresh leaves were supplied from time to time; and as the worms became full grown, they passed one by one, into the earth. After a fortnight or so, (for the time could only have been exactly determined by appropriating a glass to each worm,) we found in the tumbler three perfect insects of *Chrysmomela vitivora*.

This experiment, though not so complete as it might have been, seems to leave but little room to doubt the identity of the supposed larva with this new enemy of the vine. D. T.

RURAL ECONOMY.

BLIND STAGGERS IN HORSES AND HOGS

Back River, near Hampton, P. O.)
Mr. SMITH: Elizabeth City Co. (Va.) Aug. 5, 1832.

Dear Sir,—I have seen in one of your papers, a letter from Dr. Harden, of Georgia, the subject of which is *Blind Stagers* in horses and hogs. Until I read that letter I had never heard of *blind stagers* in hogs, the common complaint has been with us what we term the *Quinsey*, which is a violent inflammation and swelling of the throat, and indeed seems to be the disease thus classed by medical men with persons; for it is amongst the very worst symptoms with the hog, to discover a *frothing* at the mouth, and excessive coldness; in such cases I have never known one to recover. I have seen blistering, bleeding, and the black mustard plaster applied in the early stages of the disease in one or two instances with success. As to the *stagers* and its cause, with horses, various have been the conjectures; and I am not certain that Dr. Harden traces the causes, certainly to exposure to hard or excessive rains, and their falling in the ear; although the instance of his horse having fallen in a river, &c. is a strong one. Now, sir, so far as observation has gone to develop any thing as to the *stagers* with horses, it seems that horses running out constantly, or oftener in proportion to being stabled, are much more subject to such attacks; that is when the ground they graze upon is low and rich, and thereby shoots forth a quantity of rank, strong grass and weeds. For I believe it to be a fact, that upon high barren grounds, the blind *stagers* with horses is very rare, or hardly known, and this seems to be the fact, not only in this country but in Europe. Dr. Gibby attributes the disease in Europe to the large quantities of rank grass, &c. received into the stomach, by horses turned out to graze, and which is not digested, which, if it be a fact, necessarily produces inflammation and fever, &c. and of this I think there can be but little doubt, for we find the *stagers* more prevalent when our fields are mostly covered with a rich and strong growth; or it seems to prevail soon after the wet seasons in the spring or fall, where the fields are mostly covered, &c. This, as I before observed, is not the case so far as I have been able to ascertain, on high barren or mountainous countries, where this kind of grazing cannot be had. And I think before we can assent to the proposition, that it is in consequence of rain falling into the ear of the horse, which produces the *blind stagers*, we must have it proved, either that it does not rain on high barren lands, or at least never in heavy showers, or if it does that the horses there are never exposed to its effects. I do not mean to say that Dr. Harden has come to the conclusion which his proposition evidently implies, for he has thrown it out as a mere suggestion.

The Doctor observes that he has never seen a case of blind *stagers* cured, (I have not his letter before me, and therefore cannot be certain that he says so,) but names several cases of *white marks* or *signs* of such, on the ears that he has seen; which he has been informed was produced in consequence of filling the

ear with garlic, or onion, and tying it up. I have an instance of my own in a two year old colt, that was cured of the blind *stagers* last fall, by the assistance of a gentleman (Mr. George Booker) in my immediate neighborhood. The union in the ear is an old fashioned remedy, and I have no doubt of its propriety, for the reasons given by Dr. Harden. I am no physician, and cannot treat the subject as such, and therefore adopt the Doctor's reasons. There have been several cases of *stagers* in my neighborhood, and the proportion cured has been about one to three. In each case bleeding free, purging and in almost every case *raking*; which has measurably produced the effect of evacuation; and wherever free evacuations have been produced with timely bleeding, a relief and cure has been the consequence. Blistering also is important, and I know of nothing which generally raises a blister so soon as the second inner bark or rind (which is a *yellow* or *gold*) of the common black walnut. Before resorting to these remedies I had lost a valuable mare, and a three year old horse. I have saved one out of three, and I attribute this to the advice and assistance spoken of. The limits of this will not permit more.

Respectfully yours, JOHN C. ROBERTSON.

[ARTIFICIAL CITRON.—Last fall we were very much pleased with some artificial citron on the table of our friend Charles A. Barnitz, Esq. of York, Pa., and solicited of the young ladies a receipt for preparing it. We have held back the publication of it till the present seasonable moment for obvious purposes. We may remark here, that "Spring Dale" is not more remarkable for its improved stock—Durham Shortborns, Southdown sheep, fine pigs, and Westphalia geese—than it is for its luxurious and hospitable table, excellent housewifery, and accomplished and amiable family.]

Receipt for preserving American Citron.*

Pare the dark green from the outside, and scrape the soft from the inside of the melon; cut it in different forms, boil it in alum water until clear; throw it into spring water where it may remain two or three hours, changing the water frequently. To one pound of fruit take two of sugar, make a syrup of half the quantity of sugar, and boil in it all the citron until done, when it will be transparent. At the expiration of two or three days, take the jelly from it, add the remaining half of sugar; boil and pour it over the citron, which will be ready for use. Season it with ginger, sliced lemon is preferable.

Receipt for preserving common Watermelon rinds, also handed us by Miss Barnitz.

Scrape all the soft from the inside, and the dark green from the outside; cut it in any form you fancy, and throw it into cold water until you boil some alum water, into which put it, and let it boil two hours and a half; then put it into cold water again, and boil some strong ginger tea; in which it must be boiled two hours and a half; then put it into cold water until your syrup, (which must be pound for pound) is made and strained, then lay in the rind, boil it two hours and a half, or longer if the green is not handsome. Put it into glasses the next day.

(From the New England Farmer.)

OIL FROM SUNFLOWER SEEDS.—We have heard much of oil from the seeds of the sunflower, but the following from a paper printed in Scotland gives us a new idea relative to the mode of obtaining such oil.

"A very delicate oil, much used in Russian cookery, is expressed from the seeds of the sunflower, and is prepared by including them in bags, and steeping them in warm water, after which the oil is expressed; this is actually as sweet as butter."

* The American Citron is a small kind of water-melon.

THE FARMER.

BALTIMORE, FRIDAY, AUGUST 31, 1832.

RHUBARB.—We ought to have added to the article written by the Editor of the American Farmer, and copied in our 25d number from the Southern Agriculturist, that all subsequent trials of the rhubarb in diarrhæa, either in children or adults, have proved wonderfully efficacious. During the present summer our children have had frequent attacks of summer complaint, and we have applied the usual remedies with very little effect. In each instance we have been obliged to resort to the rhubarb at last. We have ventured to make these trials of the usual remedies, the more effectually to put both them and the rhubarb to a fair test, and feel authorised by numerous instances of its success, and by the absence of a single failure, to say, that the rhubarb conserve is unequalled as a remedy for common bowel complaints in children and adults. A tea spoonful of the conserve spread on a piece of dry bread is the best mode of administering it, and of this children are very fond.

SINGULAR FACT.—In the course of some experiments made by the Editor of the American Farmer, for the purpose of improving Indian corn last year, he impregnated the pistils (silk,) of the large white Tuskarora with the pollen from the tassels of the golden sioux. The result was a perfect hybrid between the two. The grain being of a pure brimstone color, of the size and form of the Tuskarora, and like that with eight rows on the cob. It was a most beautiful variety of corn; partaking of all the good qualities of both, without the disadvantage of the large cob and small grain of the golden sioux. We planted this corn last spring; the stalks were very dwarfish, resembling those of the sioux, and the corn very early fit for use. It is now ripe, however, and on examining it a day or two since we find that the two original colors have separated, and instead of the brimstone color, we have on every ear grains of the bright yellow sioux, and the pure white Tuskarora; but the quality of the corn is evidently superior to either of the original parents, although the colors have resumed their original tints. This is, to us, a singular circumstance, and one which we are unable to account for. The only thing analogous to it we have read of, is the proposition advanced by an able writer some time since in the columns of the Farmer, that the offspring of cross breeds of animals, would, instead of partaking of the mixt character of their immediate parents, assume that of one or the other of the original progenitors. How far this proposition may hold good with animals we do not know, but it certainly appears to be the case in the vegetable world, at least so far as the fact above stated warrants the formation of an opinion.

There is a good deal of difficulty in reconciling the above fact with the law of nature, which requires two parents for the production of every organized being, animal or vegetable. If the two kinds of corn which were combined in the hybrid have become again distinct varieties, they are each of them the produce of but one parent—the Tuskarora is the produce of a female parent exclusively, and the sioux that of a male parent; for it must be recollected there was no male Tuskarora nor female sioux present, either during the origin of the hybrid, last year, or the subsequent culture and separation of varieties this year. Yet we know, that if we deprive the corn of either the male or female flowers, (tassel or silk,) there will be no corn formed on the cob. How then are we to account for the present fact of the separation of the two varieties? It was this difficulty that made us doubt the correctness of the proposition relative to crosses of animals above referred to, and although we have the fact before us in the case of the corn, we are still com-

pelled to doubt its general application. We do not think that each variety has resumed all of its original characters; one of them we know it has not—the size of the sioux grain is larger than the original, and there are but eight rows on the cob; in these respects retaining the hybrid character derived from the Tuskarora; but then the original color and flintiness of the grain is resumed; the Tuskarora has resumed its original character entirely, with the exception of the soft flowery quality of the grain,—the flintiness of the hybrid derived from the sioux parent is retained. As the Tuskarora was the female parent of the hybrid, the number of rows and the size of the grain would of course be like those of that variety, and hence the presence of those characters in the present separated varieties. We should be glad to receive an explanation of this circumstance from some of our practised naturalists.

RECIPE FOR FATTENING A CALF.—To one bucket of water add one peck of good buckeyes. This has been tried on several farms in this neighborhood with invariable success. One peck of good buckeyes will go further than three barrels of corn. The most puny calf can be made plump and round in twenty-four hours, whereas one month is barely sufficient in the usual way. Another advantage is that calves treated in this way never die of the hollow horn.

[Kentucky Gazette.]

[The above is doubtless intended for a quiz, but the joke is not sufficiently apparent. The advantages of this mode of fattening calves ought to have been extended. For instance, besides their never dying with hollow horn, it should have been added that they never will have horns at all unless they had them before, and even then they will soon disappear, or only be found in some neighboring yard. It is, in short, intended to say, that the buckeyes will kill the calf.]

DOMESTIC SILK MANUFACTURE.—J. H. Cobb, Esq. of Dedham, has left with us two specimens of Silk Handkerchiefs, made at his manufactory in Dedham—the first that have ever been woven in the United States.* One of them is made of India Silk, imported in its raw state, but spun and woven at Dedham; the other is entirely of American production, from worms of 1831. The texture is fine and beautiful, and we cannot but think that impartial observers will give Mr. Cobb the credit of wonderful success in this experiment. Specimens of the same manufacture are deposited with Mr. E. K. Whitaker, at his rooms in Washington street, where the friends of the American System, and those who are favorably disposed to the infant manufactures of the country, are requested to call and examine them.

[Boston paper.]

*“The first that have ever been woven in the United States!” We are really sick and tired of the task of correcting such miserable statements. We cut the above from a Baltimore paper credited as above to a “Boston paper,” and therefore do not know which of the Boston editors it is that displays so wretched a specimen of his knowledge of American history. Instead of the specimens of silk handkerchiefs mentioned being “the first that ever have been woven in the United States,” they will scarcely rank as the thousandth. Besides the innumerable silk dresses, &c. woven and worn in this country even fifty to seventy years ago, we have several instances of large quantities of silk vests and handkerchiefs manufactured from American silk within three or four years past. Two years ago this summer, Mr. Rapp, of Economy, Pa., made a hundred handkerchiefs, and the like number of vest patterns, of superior quality. He did the same last year, and doubtless repeated the profitable job this year. On this subject we speak from what we know. Of the vesting and handkerchiefs made by Mr. Rapp, we have specimens which we have

worn for more than twelve months past, and can attest their superiority over the imported articles of like grade. We are glad to see the evidence of the progress of the silk manufacture in our country; indeed, we feel a sort of parental affection for it, and therefore a parental gratification at the progress of this young and very promising branch of American industry; and hence we dislike to see it degraded by such statements as the above.

LIME.—TO PRESERVE SWEET POTATOES.

MR. SMITH: Lebanon, August 11th, 1832.

I would be glad if some of your correspondents, through the medium of the Farmer, would make known the cheapest and best way of burning lime, and the proper time to apply it to the ground. I noticed, some time since, a publication from a Georgian, telling how he saved sweet potatoes, and that it was more difficult to save them than it was to raise them. I will just state to you the plan that I have followed for about ten years with complete success. When I dig my potatoes, I immediately or the same day put them into a cellar, or potato house built for the purpose, and mix dry dirt with them plentifully as I put them in, and after I get them all in, put dirt enough on top to exclude the air entirely, and not disturb them so as to let in the air until next spring. If this plan is followed, I am confident the potatoes will be as sound in the spring as they were when put up. But, let it be clearly understood, that they are to be mixed with, and covered by, dirt, so as to exclude the air entirely. J. M.

(From the New York Enquirer.)

THE HORSE.

It is our pride to witness the efforts making to improve the breed of this noble animal, and we take great pleasure in giving place to the following from the Birmingham Herald of June 5th, by which it will be perceived that Mr. JACKSON has purchased the celebrated horse *Hedgford*. It is said that an unusually large price has been paid for him, and that he is probably one of the best horses ever imported into the country when but six years old.

“Mr. Beardsworth has sold the horse *HEDGFORD*, for a very large sum to Mr. JACKSON, the gentleman who brought those celebrated horses, *Tom Thumb* and *Rattler*, from America, where he intends taking *Hedgford*. It appears this gentleman is determined to excel as much in racing as he has done in trotting, if we may judge from his having selected *Hedgford*, and the price he has given for him. It is much to be regretted that such a horse should be sent out of the kingdom; as independent of his being one of the best bred, he is decidedly one of the finest horses in England. He is by the *Filho da Puta*, or Magistrate, out of Miss *Craigie* (the dam of “*Birmingham*,”) six years old, 16½ hands high, with muscular power not surpassed by any horse in the kingdom. His color a rich dark brown, with black legs. He has been a great winner of stakes and cups.”

TO PREVENT HORSES BEING TEASED BY FLIES.

Take two or three small handfuls of walnut leaves, upon which pour two or three quarts of soft cold water; let it infuse one night, and pour the whole the next morning into a kettle, and let it boil for a quarter of an hour; when cold, it will be fit for use. Nothing more is required than to moisten a sponge, and before the horse goes out of the stable, let those parts which are most irritable be smeared over with the liquor, viz: between and upon the ears, the neck, the flank, &c. Not only the lady or gentleman who rides out for pleasure, will derive benefit from the walnut leaves thus prepared, but the coachman, the wagoner, and all others who use horses during the hot months.

[Farmer's Receipt Book.]

AGRICULTURE.

IMPROVEMENT OF SHEEP.

MR. SMITH: *Lucky Hit Farm, July 28th, 1832.*

I have now the pleasure of sending you the postscript promised on the abrupt division of the 13th query of Mr. T. W. of Tennessee, on sheep husbandry, which will be continued, in connection with a reply to other queries as soon as cool weather and long nights, &c. will permit. But it is hoped that in the mean time, such as have been answered in a brief and hasty manner, with the additional questions proposed, will meet with the consideration of experienced sheep breeders, who can, no doubt, render material service to the untought shepherds of the west, with but little trouble to themselves.

Another querist says, I take the liberty, if it will not be forestalling your intended publication, &c., to request you will answer the subjoined inquiries with the addition of such remarks as you may deem pertinent or requisite to an understanding of the subject.—In reply to the above allusion to an intended publication on the general subject, of sheep, wool, and sheep husbandry, in their connection with our varied soils and climates, and their application to the differing interests and demands of our people—it would be equally as agreeable, as in fact, will more or less be the case, to retail all information on the subject, if it were not believed that work embodying the best experience, (principally that of our own country) compared and arranged in reference to crosses and intermixtures, to meet sectional interests, in the establishment of a variety of breeds, whether of Spanish, French, or Saxon Merino improvements—English Southdown, Bakewell, or Lincolnshire—the better kinds of Tunis, Island, or Friesland—or the crossed breeds which may have been established for their value beyond controversy, by individuals of our own country.

But the value of such a work must essentially depend upon the intelligence and public spirit of gentlemen who can, if they will, communicate information in relation to the kinds and qualities of sheep in their respective districts, with every circumstance they may deem necessary to a fair understanding of the subject, not neglecting to offer a sample of wool from the different breeds. There are some if they were capable and able, would willingly make an agricultural tour of the United States, for the express purpose of examining, comparing, and recommending improvements in agriculture, beginning with sheep, and going through the varieties of stock, and other useful domestic animals—modes of culture—structure and use of the different kinds of implements and machinery used in husbandry, &c. &c.

As a pleasing and instructive evidence of the importance of accumulating knowledge, particularly on the subject of sheep and wool, permit me to introduce here, a communication from a distinguished sheep breeder of Maine, to the American Standard, published in Gardiner, Maine, by Messrs. P. Sheldon and E. Holmes; a farmers and mechanics' journal, faithful to the progress of domestic improvements. On this intelligent communication I will take the liberty of making a few remarks, in their proper place, especially as it has a kind reference to our southern efforts to improve the breed of sheep, and may possibly be a trifling return for the greater favor.

April 13.

Such information as I possess relating to sheep, I take pleasure in communicating, for the perusal of Mr. Meade; but regret, the duty had not been assigned to one, better qualified to give it, than myself. Your Queries will be answered principally, in the order in which they stand in your letter.

What is the number of sheep in Maine?

I saw about a year since, the number stated, in a

newspaper, at between 8 and 900,000. By what means the writer obtained his information, is unknown to me. From the best calculations, I am able to make, I should think the number low enough. They have increased rapidly in the valley of the Kennebec within the last 7 years. The whole amount of wool, then offered for sale, in the Counties of Kennebec and Somerset, did not exceed 40,000 lbs. The last 2 years, not less than \$200,000 have been yearly vested, in the article. This sum may be considered small enough, when one man has bought yearly, to the amount of from 60 to \$75,000 and there have been many purchasers.

What breeds, when—and by whom brought into Maine?

Till the introduction of the Merino, I know of no other breed, save the common coarse one of New England, which has been here, perhaps, since the landing of the Pilgrims on Plymouth rock. Who were the first importers of the Merino, is unknown to me.—They were brought, in small numbers, into the State, soon after their introduction into the United States. Among the first purchasers, perhaps may be named John Davis, Esq. of Augusta; Gov. Honton and Dr. Hubbard, Readfield; Gen. Chandler, of Monmouth and Judge Lincoln of Dennisville, Washington Co. They were on his farm, as early as 1810. Likely others obtained small numbers as early as these gentlemen.

You see my information on this point is quite imperfect. I had taken no particular interest, in the animal, till about 7 years since. The Dishley is the next to be noticed. Some bucks of this breed are among us; and are working their way, rapidly into public favor. A cross with the Merino, makes a long and fine wool for worsteds, &c.—and with the common breed a good wool for household manufacture. Your Dishley was the first one to my knowledge in this part of the State. They are, yet few and far between. I consider the Saxon and Spanish Merino the same breed; the former improved in the fineness of the fleece, by emigration to a climate similar to our own. The first Saxony Buck was brought to the State by K. G. Robinson of Hallowell. The next to the same place by myself. Mr. Thorndike of Boston; sent several to his farm in Jackson, Waldo Co. from the first importations—all about 6 years ago.

The importations subsequently were so frequent, that most of the Spanish, has been crossed with the Saxony, and a great improvement in the fineness of the fleece has been the consequence. If we may anticipate from the effect produced by removing the Merino from Spain to Germany, it will not be many years, before Maine will grow wool equal in fineness to any in the world, provided proper care is taken in selecting for breeders.

Best mode, and expense of keeping sheep?

Sheep do best in summer on high dry and rocky land. In a pasture which has a more or less northerly aspect and plenty of shade, they may run in large flocks, for they seldom crowd together in hot weather, where the shade is in different parts of the pasture. They should have salt by them to lick when they please. If 2 or 3 pastures can be furnished, to change their location once a week, so much the better. Hard stocking keeps the grass short and sweet and of this they are more fond than after the seed stalk springs. It is hardly possible to keep sheep through the winter on hay alone, in as good condition as they come to the barn, they should have some succulent food daily, and the more the better or they lose flesh. To judge from my own experience, I should say give a sheep daily 4 lbs. Ruta Baga and as much hay as she will eat, which will be about 1 lb. and she carries her summer fat through the winter, and is much more sure to raise her lamb, than if fed on hay alone.

Indian corn, in quantity of a gill daily, or even half a gill, is of great service. Every farmer is more

than paid for his corn in the weight of the fleece alone, to say nothing of the benefit to the animal.

Last winter, as you know, I fed largely with the turnip, there was not a sheep in the flock at all disordered during feeding time. I am well satisfied that a good proportion of succulent food suits the stomach better than all dry food, of any kind.

An acre of pasture will feed 6 sheep with their lambs, through the season. Most farmers say 7 or 8. I have weighed out 2 lbs. of hay per head to my flock, several days in succession in clear cold weather, and found that alone, as much as a sheep will eat. This corresponds with the experiment of M. Daubenton in France; although he does not inform us what breed his experiment was tried with. We feed about 1.40 days on an average. A ton of hay will therefore winter 8 sheep. If we estimate the cost per ton at \$2.50, the expense of wintering on hay alone is 31 cents. But it is better to winter at more expense, in order to ensure a good fleece, and the life of the lamb.

Putting the food at the actual cost to the farmer, to raise it and including interest of money, where land is cheap and taxes light, I am satisfied this estimate is quite high enough.

Sheep should be kept in the open air in the winter, when they huddle so close together, as to render the air impure, if confined. During our severe storms and high winds, they need, however, a shade open at the south side. In moderate and clear weather, it is much better not to allow them any shelter, day nor night. They should be fed in the morning, away from the place where they have slept, have free access to water, and be supplied with salt, as in summer. Managed in this way 1 or 200 may be kept in a flock with much less trouble, than if kept in so small numbers as to be allowed a warm and tight place of resort at any time.

The best season for yearning depends on several circumstances. Where the flock is small, and the sheep can be kept in a close and warm place, March is a good time, where it is large the middle of April, is early enough and a later period is better, unless there is plenty of shed-room to put the ewes, during the cold rains to which we are subject, at this season. Other things being equal, an earlier period would be better; because if the lambs do not come till May, it is very difficult, to get them well through the first winter, especially, if there is not a good supply of succulent food, to give them.—On the other hand, if the lambs come before the sheep get to the grass, many of them will die, unless the flock is in high condition. The fleece of the dam is also much injured, by nursing three or four months before shearing. Viewing the subject in all its bearings April is early enough for yearning to commence. The lambs should be kept by themselves, the first winter, and in so small flocks that they may have a warmer place, than the old sheep need. To do well, they must be well supplied with juicy food. It is nearly impossible, to make them do well without it, and if they get poor, they never make so likely sheep.

What Diseases?

Sheep in this state are generally healthy. Our fine pasturage and clear sky, suit the constitution of the animal. They suffer, perhaps, more from neglect, than any other cause. There are however some disorders to which they are occasionally subject and which are worthy of notice.

The foot rot has prevailed in some flocks; but in every instance I believe the infection could be traced to a sheep imported from Saxony. Very likely, it is now eradicated.

The remedy, I used was, after separating the diseased from the healthy sheep, to pare of all the hoof so far as the foot was diseased, to cleanse it with soap suds, and then hold it, a few minutes, in a saturated solution of a blue vitriol, or apply the solution thoroughly, with a painter's sash tool. One dressing commonly effected a cure. Worms in the Head.—We are occasionally troubled with this. I give my ideas

of this disorder connected with the facts, that have fallen under my own observation, and leave to others, to judge how far they are correct.

In the months of July and August when the weather is clear and hot, a fly called by Entomologists, *Oestrus ovivorus*, deposits a nit in the nostril of the sheep; where it hatches and passes into the frontal sinus, where it remains, and grows till the next spring, when it leaves the head, goes into the ground, and in due time appears in the fly form, again to torment the woolly tribe. This is the general opinion of the economy of this enemy.

If my ideas are correct, a sheep does not die of course, because of the worm in the head, any more than does the horse by having bots, or a child, worms. In the spring of 1828, quite a mortality prevailed among the flocks, by reason of the worm. The month of March and first of April was very warm and pleasant; whether this contributed to hasten the maturity of the animal is perhaps quite doubtful.—About the 20th of April the weather became so cold as to freeze the ground, and immediately the sheep began to die, many had the symptoms; but finally recovered.

A council of war was called to determine how to proceed against an enemy, that bid defiance to all the artillery brought against him; and it was finally concluded, he could not be made to leave winter quarters, as Napoleon was to leave Moscow, till it suited his own convenience, and so it proved. As soon as the weather became so warm as to open the ground, which was on the 25th, the sheep ceased to die and those, that had the symptoms, rapidly recovered. This is the only spring, since I have been a shepherd, that my flock, or any other to my knowledge, has been afflicted. I have in other springs frequently seen the worm dead among the manure in the yard, full grown. Although his instinct forbade him to leave winter quarters, in a cold day, it did not teach him the difference between dropping from the head on the warm earth or a pile of ordure. The best preventive I think is that recommended by Mr. Shepherd of Northampton, Mass. viz. To turn several furrows in the pasture, where the sheep will collect and having their noses close to the ground make so much dust with their feet, as to keep the fly at bay. In very hot weather in fly time, sheep, if a chance offers will penetrate a thick wood, where I have frequently watched them, and could never discover any annoyance from the fly. It is only in hot days and bright sunshine, that they are troubled with the insect.

On opening the heads of several sheep, that had died of the worm, I usually found from ten to twenty of the insects, and most generally of different sizes. In every instance, they were more or less full grown, because they exhibited the same appearance with those I have found dead in the sheep fold among the manure. While others were one-half, two-thirds, and three-fourths as large; from which it may perhaps be inferred, that the insects do not all arrive at maturity at the same time in the spring; but that a given length of time, from the period the nit is deposited, is necessary to mature the animal. Those deposited the earliest coming to maturity in April, while those last hatched may remain some time longer without injury. I was not able to discover any marks of inflammation on the brain, or in the frontal sinus, or any appearance of the animal having injured the membrane, with which the frontal sinus is covered.

The cause which produced the death of the sheep I apprehend to be occasioned by the uneasiness of the worm, subsequently to the time when its instinct taught it to leave the head, or as Dr. Darwin would say, the worm killed the sheep, by exhausting the sensorial power.

Should my flock be again attacked, I should confine the sheep in a close and warm place, in order to lure the worm from his strong hold; having no confidence in any of the remedies I have yet seen named for the disorder.

The best marked symptom of the disorder, is a great degree of paleness in the lips and mouth of the sheep. This was present in all that died, and by its presence I was able to mark all others disordered.

Two lambs were trepanned that had this symptom, and several worms taken out. They both died, when it was found, that worms in the mature state had escaped beyond any reach.*

For an account of the disorder which prevailed among the flocks in the winter of 1828—9, I refer Mr. Meade to two communications of mine in the N. E. Farmer in the spring of 1829. As the volumes are not at hand, cannot refer him to the pages. If he has not access to that work, I will communicate with him when he wishes. I have, as yet, seen no reason to alter the opinion there expressed, of the cause of a malady, which made such havoc among us.

The above are the principal disorders to which sheep are subject in this state. If the scab or rot have prevailed I have no knowledge of it.

The average quantity of wool from the Merino, may be stated at three pounds washed on the back.—If they are poorly wintered less, and high fed more. The fleece of the common breed perhaps 24 lbs.—The Merino crossed with the Dishley 4 lbs.

General Remarks.

The wool of the Merino has much improved in fineness, since their introduction into Maine, and a corresponding decrease in the weight of the fleece has been the consequence.

This at first view may appear to our disadvantage, but it is to be remembered that prior to the introduction of Saxony Bucks, our wool sold higher in the market than the Spanish, although the price current quoted lower.

Our wool went to market washed on the back in cold water only, while the Spanish came, stapled and divested of all impurities after shearing.

Several persons having been ruined by the Merino mania after their introduction into the United States, most of our farmers became prejudiced against the breed, and it took many years to restore it in any considerable degree to public favor, and the prejudice is not yet wholly eradicated. Whatever are now the proportions, as to numbers between the natives and Merinos, it is pretty certain, the fine wool is gaining ground, and unless the Dishley should become the favorite, or some other breed, which may hereafter be introduced, the Merino will soon become an animal of general regard. There are, as yet, no very large flocks in Maine. Perhaps Mr. Thorndike's in Jackson, Mr. Barrel's of Livermore, Oxford Co., Messrs. Tinkham's of this town, are among the largest, and I believe neither of these gentlemen, as yet keep one thousand. Mr. Tinkham has frequently told me, that twenty-five cents per pound gives him a better profit than any other production of his farm. With this opinion I am quite disposed to agree.

Maine is destined to become a wool growing state of the finest production. The rapid increase of sheep, within the last seven years, warrants the belief, that before many years wool will be the great staple of the state; especially should the system of protecting domestic industry, be persevered in till it "has filled up the measure of" its "country's glory."

Your obt. servant,

REMARKS.

It is exceedingly flattering in the first place to learn that the Merino sheep have improved in the quality of their wool since their introduction into Maine, and from this fact, amongst others, may be reasonably ap-

*I have learned by woful experience that my ideas of worm in the head are not wholly correct. There has been sad havoc among the woolly tribe for several weeks past, by this insect. When my observations are closed for the spring, I shall communicate them to you.

†In Maine and other parts of New England.

prehended the importance of appropriating to the several great divisions of our country, as regards both soil and climate, such sheep as will be immediately most productive in their respective localities. By some it may be said, let them alone, they will all find their proper place in time—perhaps, in a century or so, without much inquiry or trouble of investigation, as time is said to be the curer of all things, after many errors, losses and sacrifices there will be an approximation to such a system of improvement, as may be accomplished in very few years, with the co-operation of intelligent and enterprising citizens. A truer illustration of error, in the humble opinion of the writer, is not to be found, than in the circumstance of the introduction of the diminutive fine woolled Saxon Merino into the rich clover pastures of the valley of Virginia, Pennsylvania, &c., where large sheep, with wool of moderate length and quality, should be grazed. When lands are frequently ploughed in, as in wheat and corn countries, but little stock should be kept, but that of the best size and quality; save where grazing is made a business of under peculiar circumstances, for the butcher or manufacturer. We should surrender the small Merinos and very fine wool to the care of the proprietors of thin broken lands, in less genial climes than are to be found south of the Susquehanna, where crosses and grades of the Merino and other breeds are best adapted, and where labor is cheaper, and less skill and attention required to make a living from the cultivation of the soil—not that much of the southern, middle and western country is not the best in the world for the raising of sheep generally—but that peculiar breeds can be more advantageously adopted, just as the different varieties of corn, wheat, grasses, vegetables and flowers are—and as it is hoped there never can be an occasion among these sister states to do violence to nature in their cultivation of the earth for the sake of absolute, unconditional, and uncompromising independence; so let that circumstance be cherished, and cultivated with care, with a view to the inestimable advantages of combining more firmly through their truest interests these still happy states.

With regard to the introduction of the Dishley, Bakewell, or New Leicester, into the state of Maine, may it be suggested, that it is a cross better suited to richer lands, and hotter suns, or rather middle latitudes. It is presumed, that what is meant by a Dishley cross, is the Dishley ram on the Saxon or other Merino ewe—if so, without condemning the practice, as my experience and reading would fully warrant, let it at least be a matter of inquiry, whether such crosses have succeeded any where, by a comparison of the fine wool cross on the coarse and long, growing on large sheep. It will not be presumptuous to do, we hope, as Yankees do—guess, at least, that the best way of raising fine long wool for other than felling purposes, will be, to cross the fine cross on the long, and thin fleece—perhaps the Bakewell is as good as any other—but always on such sheep as have been known to produce wool of a uniform quality, and least likely to be suddenly converted from its long established acquired improvement, by that kind of wool which is best adapted to fulfilling. Our common country wool soon surrenders its peculiarities to the perfections of the Merino fleece, and becomes more and more adapted to the felting operations—not so with the strong, straight, long wool, of improved breeds, being much more tenacious of its own peculiar nature, yielding gradually its coarseness to the skill and judgment applied in the fine wool cross. The wool of sheep reared in the extremes of climate, would be more tenacious of its peculiarities than in the temperate or middle latitudes, consequently, would amalgamate with greater difficulty under the greatest share of experience and knowledge. The ewes of the larger breeds of sheep having a better supply of milk for their young, rear the half-bred Merinos with much greater success, than the feeble Merino does the half-bred of the heavy coarse sheep. Other rea-

sons might be mentioned, but this is not the place to multiply assertions which would naturally involve the why and the wherefore, as but a few brief remarks are intended, and not an essay. 'The Bakewells are certainly the largest, best formed, and most productive mutton sheep in our country, and better adapted to crosses for that object. 'The Southdown, I should esteem a more delicate mutton, with wool of much better quality, and perhaps better adapted, generally, to the surface of our whole country, than any other breed whatever—they may be most decidedly bred, by a cross of compact and well formed Merinos, on our common country sheep. If Mr. Jarvis' account of the Saxon Merino be correct, they cannot be such as are calculated to give either stamina or form to their offspring, and he is a gentleman of great experience in the Merino way. He admits the superiority of their wool, but denounces them as long-legged, thin quartered, flat-sided, narrow loined, not sufficiently deep-chested, and long-necked—thinks his wool has decreased one-third in six years since he has crossed with the Saxon, and that their constitutions have been injured, and cannot bear cold with the Spanish Merino. This is an interesting paper, to be found in the American Farmer, Vol. XIV, No. 14, and accounts for the bad form and constitution of the Saxon sheep, in the fact of their being chosen exclusively for the exquisite fineness of their wool. I well remember it to be a fact, with those imported into the District of Columbia, twenty odd years past, (the Spanish Merino) that the smallest and most indifferent looking sheep had the most remarkably fine wool.

Information was much wanted with regard to the number of sheep supported to the acre, summer and winter. It is not too late when our friend shall enlarge on his valuable communication, to say, what portion of the acre of land which sustains six sheep through the season, shall be cultivated in hay, roots and grain, for their winter support. I am well aware, that two small Merinos, yielding from two to three pounds of beautifully fine wool, can be raised on the same means required for a heavy mutton sheep, producing individually more wool. From two to three hundred of such are as many as can possibly be raised on one hundred acres of such lands as are well improved in grass, in the limestone valley lands. Can it be pronounced by any one, with a reasonable degree of certainty, what latitude in the United States, the soil being equal, would sustain the greatest number of sheep, whether in the neighborhood of 35 or 45 degrees?—or, rather, what weight of mutton and wool could be produced? Here it must be seen, that an inquiry into the kind of sheep, &c. is involved.

The economical calculations of our Maine farmer, and those of M. Daubenton of France, would not feed our larger sheep of the south and west; but the observations of the former are of the utmost importance, in relation to the supply of succulent food, to keep off disease, and promote a more uniform growth and general prosperity of a flock, which in the winter season loses the advantage gained in the summer for the want of it.

The disease in the head, which has caused so much speculation, and esteemed so mysterious with most of us, has been investigated with more precision in Maine than elsewhere. The author of the communications on the disorder which prevailed amongst our flocks in the winter of '88-9, and then published in the New England Farmer, will be pleased to accept our thanks for the kind offer of them, and if the American Farmer cannot find it convenient to extract them from the N. E. Farmer,* shall be much obliged in the receipt of them, and all other information touching the subject, which may proceed from his experience, in such way as will be most agreeable to him. Perhaps something useful may be added in regard to the prevention of the origin of this disease—namely,

the worm in the head produced by the fly. The suggestion of turning a few furrows in the field they run in, certainly facilitates their object in escaping the fly, but the remedy is as bad as the disease. Laying for hours at a time, in the hot broiling sun, in a bed of dust, snorting, pawing, and intermingling the dirt with their wool, deteriorating both their health and fleece. Every flock of sheep should be provided with a wood pasture to escape to in the heat of the day—and this is following nature. Its being at a considerable distance should be no obstacle, for they will probably take more exercise in frequently changing their position amongst the furrows, than in walking at their own pleasure to the wood, where they are perfectly at rest, and secured from their perplexing enemy, by running their noses under the leaves.—My sheep graze no longer in the early morning than they are able to shade themselves in gradually approaching the woods.

In taking leave of this valuable communication, plain and practical, our reflections are naturally led to a view of the importance of aiding and improving each other, regarded even in a selfish way—but when we come to contemplate its effects in a purer spirit of liberality, the heart is warmed with the anticipation that the time is not far distant, when we shall also employ our minds for the benefit of each other, with the hope that our resources generally, and agriculture in particular, will be so improved, that the health, strength and prosperity of our Union will march safely on to still higher and higher degrees of perfection.

A hint or two with regard to the time and circumstances of the shearing of sheep, and a fact or so on their production, will conclude our postscript.

Farmers generally have a fixed time annually for their shearing, whereas in our cold and very variable climates, we might, to advantage, delay the period sometimes, at least one month to the comfort and health of the animal, and the greater production of its wool—more especially when it has been well washed on the back.

The last season has been less propitious to the growth and general turn out of wool than I have known for many years, owing to the hard winter, cold and rainy spring, which continually cleansed the wool of its slowly flowing oil, which in warmer, dryer seasons adds to its length and pliability, as well as to its useless quality of dirt—instead of 8 pounds, more or less, I have shown less than 6½ on an average—nevertheless the growth was very considerable in the spring months. An experiment made to prove an opinion I had long entertained, that the spring months produced more wool than any other equal time, resulted in its confirmation. On the 5th of April, samples were taken from three sheep of the first shear, and three others of the second, from three to six inches long—the last of May, making a period of between seven or eight weeks, other samples were taken from each sheep, and compared with the former, when it was proved that the latter had grown from 1½ to 2 inches; the greatest growth, by the first shear wool. From this experiment I am satisfied that in a fine growing spring the wool on the majority of my sheep will grow at least three inches—whilst the nine months, three-fourths of the year, is producing less than two-thirds of its length. Now, if this be a fact, which I have no doubt will hold good in thrifty long woolled sheep any where, will it not be of considerable importance to consult the latest time in prudence for shearing, and further to ascertain whether the different kinds of sheep in their differing latitudes will do the same.

The sheep which have been sent abroad the last spring, have proved a deficiency also in their shearing, eight pounds instead of ten, as will be seen by the following extract of a letter from a gentleman on the Kappahannock, to whom a pair of Frederick sheep were sent:—"The fleeces turned out, as you say, 16 lbs. the ram's wool very fine, and I think the ewe is the handsomest animal I almost ever saw; her

form appears to be perfect, but not large. [She has two years to grow, my friend.] I did not go agreeably to your instructions, which I very much regretted—the reason was this—I was fearful some accident might happen to one or the other, and I might be deprived of the breed; but shall go by your directions after this year. The five ewes I purchased of Mr. — gave seven pounds of wool each; [half-bred Frederick,] they are very fine. My brother who has the common, has sheared 28, and got 100½ lbs. of wool, and that indifferent. I, seven, and got 49½, and I do think his sheep will eat as much as mine; see the difference?" [worse than that, for in order to produce the same quantity of inferior wool, they will destroy double the food with their mouths, and with their hoofs deteriorate so much more.] The advantages of keeping a few fine stock, in preference to two or three times the number of indifferent ones, to the improvement of the soil, comfort and profits of the cultivator, were discussed some years since in some papers sent to the Farmer office and there mislaid. I would take the liberty of recommending it as a subject truly worthy the consideration of some of your ready writers. The subject of agriculture is infinitely various and inexhaustible; and truly some of us have great need for pardon in presuming to occupy so much of your attention.

Yours, respectfully,

R. K. M.

(From the Genesee Farmer.)

CLEANING MEADOWS.

The following extract of a letter from my old friend R. M. WILLIAMS, contains a hint too valuable to be lost. He has not directed me how to dispose of it, but its publication in the Genesee Farmer may be the means of doing much good to others. I have also paid a premium to children for gathering cockle plants by the hundred in the spring from my fields; and it is probable that in almost every neighborhood, there may be found boys, who for a trifle would willingly engage in such services. Job-work is much more exciting than day-labor. The boy who is intent on filling his bushel, will be too much engaged to watch the sun. It is a cheap way to clear our fields of bad weeds; and to train those who would otherwise be idle, to habits of industry, is patriotic and benevolent;

"In 1812, when I first came on the farm where I now reside, one of my meadows was much injured with the sour dock. In the spring, after the frost was out, and before the ground had settled, I found the roots came out easily. I offered a bounty of one shilling a bushel for dock roots, to be gathered on my own land; and the children of the neighborhood engaged with zeal in the business. They pulled about eight bushels, and I have never been troubled with them since. I believe the Canada thistle may be eradicated in this way."

D. T.

(From the Genesee Farmer.)

CUTTING CORN STALKS.

The editor of the Village Record, published at Westchester, Pa., says the practice of Judge Buel, to cut his corn up by the roots and set it in little stacks to ripen, thus saving the leaves from the frost for fodder, and letting the ear continue for awhile to draw nutriment from the stalk, is universally practised in Chester county. The editor says—"late in September or early in October, corn is cut near the earth. Set up in shocks round a hill, that is left uncut, to help to support the rest—the tops tied with rye straw. In this situation it remains until seeding is over. It is then husked—the husker having a pin of hard wood, 24 inches long, about the size of a goose quill, sharp at one end, which is fastened under the two middle fingers of the right hand with a string. This aids him to tear open the husk, and considerably facilitates the work. Not remembering to have seen such an implement in use elsewhere, I suppose

* Will copy it with pleasure, if furnished with the the copy.—Ed. Amer. Farmer.

it not common; but, though very simple, it is useful. After the corn is taken in, the stalks are tied in bundles, with straw—drawn near the barn yard, and put in ricks, thus: The rick is made low, the butts pointing out each way, the tops overlapping more than a third, and raised so that wet will fall off each side from the centre. It should be of moderate height from 7 to 10 feet. Beginning at one end, the farmer takes off, from top to bottom, enough for his cattle. All the rest remains undisturbed, and secure from rain as when first put up. In this way the whole is fed out, from one end of the rick to the other. What the cattle do not eat is trodden into the manure heap, absorbs juices that would otherwise evaporate or run off, and then the corn stalks, when well rotted, are returned to the field, increasing its fertility. How much better is this mode than topping corn and leaving the stalks to stand all winter, drying and withering in the field, affording neither food for animals nor manure for land."

HORTICULTURE.

(From Forsyth on Fruit Trees.)

INOCULATION, OR BUDDING.

This is commonly practised upon all sorts of stone fruit in particular; such as peaches, nectarines, cherries, plums, &c. as also oranges and jessamines; and is preferable to any sort of grafting for most kinds of fruit. The method of performing it is as follows: You must be provided with a sharp penknife, or what is called a budding knife, having a flat haft, (the use of which is to raise the bark off the stock to admit the bud,) and some sound bass mat, which should be soaked in water to increase its strength, and make it more pliable; then having taken off cuttings from trees that you propagate, choose a smooth part of the stock, about five or six inches above the surface of the ground, if designed for dwarfs, and for half standards at three feet; but for standards, they should be budded six or more feet above the ground; then with your knife, make a horizontal cut across the rind of the stock, and from the middle of that cut, make a slit downwards about two inches, so that it may be in the form of a T; but you must be careful not to cut too deep, lest you wound the stock; then having cut off the leaf from the bud, leaving the foot stalk remaining, you should make a cross cut about half an inch below the eye, and with your knife slit off the bud with part of the wood to it, in the form of an escutcheon; this done, you must with your knife pull off that part of the wood which was taken with the bud, observing whether the eye of the bud be left to it or not, (for all those buds which lose their eyes in stripping, should be thrown away, being good for nothing,) then having gently raised the bark of the stock where the cross incision was made, with the flat haft or handle of your knife, clear of the wood, you should thrust the bud therein, observing to place it smooth between the rind and the wood of the stock, cutting off any part of the rind belonging to the bud which may be too long for the slit made in the stock; and having thus exactly fitted the bud to the stock; you must tie them close round with the bass mat, beginning at the under part of the slit, and so proceed to the top, taking care that you do not bind round the eye of the bud, which should be left open.

When your buds have been inoculated three weeks or a month, you will see which of them have taken; those which appear shrivelled and black are dead; those which remain fresh and plump, you may be sure are joined; and at this time you should loosen the bandage, which if not done in time, will pinch the stock, and greatly injure it not destroy the bud.

In the March following you must cut off the stock about three inches above the bud, sloping it that the wet may pass off and not enter the stock; to this part of the stock left above the bud, it is very proper to fasten the shoot which proceeds from the bud, and

which would be in danger of being blown out, if not prevented; but this must continue no longer than one year, after which it must be cut off close above the bud, that the stock may be covered thereby.

The time for inoculating is from the middle of June until the middle of August, (in America from the end of June to the end of August,) according to the forwardness of the season, and the particular sorts of trees to be propagated; but the time may be easily known by trying the buds, whether they come off well from the wood or not. However, the most general rule is, when you observe the buds formed at the extremity of the same year's shoots, which is a sign of their having finished their spring growth.

(From the Genesee Farmer.)

RHUBARB.

In the Horticultural Register, there is an article on the cultivation of rhubarb, from the pen of Dr. Bevan. In it, he says rhubarb requires for the perfection of its growth, as rich a bed as asparagus, and the practice he adopts is to appropriate a square yard of soil to each plant—to remove a cubic yard of earth—to fill up the pit thus made with well rolled stable manure, treading it closely down—to cover the same with a mound of earth, consisting of the soil which has been removed; and to place a single offset of rhubarb in the centre of it; the crown of the offset, (which requires to have very little root attached to it,) should be two or three inches below the surface. The business should be performed very early in the year; and if severe weather supervene, a covering of raw stable manure should be laid over the mound. In the course of the first season, (during which time none of its leaves should be plucked,) the roots will shoot down through the soil into the manure below, and it will for many years afterwards yield a large supply of stalks during the spring and summer months, of dimensions far beyond those which are usually seen. The pointed leaf is the best sort, and cultivated in a manner here recommended, the finest leaves will measure from three to four feet across, and the girth of the stalks be from three to four inches.

(From the New England Farmer.)

THE STONE PINE. (*Pinus cembra*.)

This is one of the most useful trees in Switzerland: it is indeed of very slow growth; one of them, cut down when nineteen inches in diameter, displayed three hundred and fifty-three concentric circles. Its usual growth is a span in height in six years. The timber of this tree has a most agreeable perfume, and is much used for domestic utensils, as well as for wainscoting rooms. A traveller who visited the chateau of Tarasp, was struck in almost every apartment, with the perfume of this wood; and he remarks it is a surprising and inexplicable circumstance, that the wood should have exhaled this perfume for some centuries in undiminished strength, and without the wood itself having suffered any decrease of weight. But this wood possesses another recommendation: rooms wainscoted with it are not infested with bugs or moth. Its seeds are esteemed a delicacy; they are eaten in great quantities at the winter parties; and on those occasions it is said the female sex display in extracting them a high degree of skill, mixed with much innocent gaiety and vivacity.

(From the Genesee Farmer.)

NOVELTY IN HORTICULTURE.

A splendid unit has lately been added to the list of hardy flowering shrubs. The plant is a species of the currant bush, most nearly allied to the black currant, which it resembles very closely, both in form and smell of the leaves, and also in the general appearance of the plant, with this exception, that the

flower petals of the new species are of a bright scarlet, and hang in gracefully sweeping clusters of from 20 to 40 individual florets upon each. The botanical name bestowed on this new variety is *Ribes sanguinea*, and the English one that of Scarlet-flowered Currant. The fruit of it, from the description we have heard, is not likely to be of much value; but, should the plant possess a disposition to cross with the other species, we need not despair of acquiring, in due time, a hybrid which will not be merely ornamental, but may vie in usefulness with any of the black, the red, the white, or the champagne varieties.

RURAL ECONOMY.

(From the Memoirs of the New York Board of Agriculture.)

REMARKS ON THE CONSTRUCTION AND MANAGEMENT OF CATTLE YARDS.

BY J. BUEL, OF ALBANY.

Vegetables, like animals, cannot thrive or subsist without food; and upon the quantity and quality of this depends the health and vigor of the vegetable, as well as of the animal. Both subsist upon animal and vegetable matter; both may be surfeited with excess; both may be injured by food not adapted to their habits, their appetites, or their digestive powers. A hog will receive no injury, but great benefit, from free access to a heap of corn or wheat, where a horse or cow will be apt to destroy themselves by excess. The goat will thrive upon the boughs and bark of trees, where the hog would starve. The powerful robust maize, will repay, in the increase of its grain, for a heavy dressing of strong dung; for which the more delicate wheat will require you with very little but straw. The potato feeds ravenously, and grows luxuriantly, upon the coarsest litter; while many of the more tender exotics will thrive only on food upon which fermentation has exhausted its powers. But here the analogy stops: for while the food of the one is consumed in a sound, healthy, and generally solid state, the food of the other, before it becomes aliment, must undergo the process of putrefaction, or decomposition, and be reduced to a liquid or eriform state.

I have gone into the analogy between animals and vegetables thus far, to impress upon the minds of our farmers the importance of saving, and applying, the food of their vegetables with the same care and economy that they do the food of their animals. How scrupulously careful is the good husbandman of the produce of his farm, destined to nourish and fatten his animals; and yet how often careless of the food which can alone nourish and mature his plants! While his fields are gleaned, and his grain, hay, and roots carefully housed, and economically dispensed to his animals, the food of his vegetables is suffered to waste on every part of his farm. Stercoraries we have none. The urine of the stock, which constitutes a moiety of the manure of animals, is all lost.—The slovenly and wasteful practice of feeding at stacks in the fields—where the sole of the grass is broken, the fodder wasted, and the dung of little effect, is still pursued. And finally, the little manure which does accumulate in the yards, is suffered to lay till it has lost full half its fertilizing properties, or rotted the sills of the barn; when it is injudiciously applied, or the barn removed to get clear of the nuisance. Again—none but a slothful farmer will permit the flocks of his neighbors to rob his own of their food; yet he often sees, but with feeble efforts to prevent it, his plants smothered by pestiferous weeds, and plundered of their food which is essential to their health and vigor. *A weed consumes as much food as a useful plant.* This, to be sure, is the dark side of the picture; yet the original may be found in every town, and in almost every neighborhood.

It is surprising, that under such management, our arable grounds should grow poor, and refuse to labor

its accustomed reward? Can it be considered strange, that those who thus neglect to feed their plants, should feel the evil of light purses, as well as of light crops? Constant draining or evaporation, without returning any thing, would in time exhaust the ocean of its waters. A constant cropping of the soil, without returning any thing to it, will in like manner exhaust it of its vegetable food, and gradually induce sterility. Neither sand, clay, lime nor magnesia—which are the elements of all soils—nor any combination of part or all of them, is alone capable of producing healthy plants. It is the animal and vegetable matter accumulated upon its bosom, or which art deposits there—with the auxiliary aid of these materials diffused in the atmosphere—that enables the earth to teem with vegetable life, and yields its tribute to man and beast.

I will now suggest a cheap and practical mode of providing food for vegetables, commensurate to the means of every farmer of ordinary enterprise; and that my suggestions may not be deemed theoretical, I will add, that “I practice what I preach.”

The cattle-yard should be located on the south side of, and adjoining the barn. Sheds, substantial stone walls, or close board fences, should be erected at least on the east and west sides, to shelter the cattle from cold winds and storms—the size proportioned to the stock to be kept in it. Excavate the centre in a concave form, placing the earth removed upon the edges or lowest sides, leaving the borders ten or twelve feet broad, and of a horizontal level, to feed the stock upon, and from two to five feet higher than the centre. This may be done with a plough and scraper, or shovel and hand barrow, after the ground is broken up with the plough. I used the former, and was employed a day and a half, with two hands and a team, in fitting two to my mind. When the soil is not sufficiently compact to hold water, the bottom should be bedded with six or eight inches of clay, well beat down and covered with gravel or sand. This last labor is seldom required, except where the ground is very porous. My yards are constructed on a sand loam, resting on a clay subsoil. Here should be annually deposited, as they can be conveniently collected, the weeds, coarse grass, and brake of the farm; and also the pumpkin vines and potato tops. The quantity of these upon a farm is very great, and are collected and brought to the yard with little trouble by the teams returning from the fields. And here also should be fed out, or strewed as litter, the hay, stalks, and husks of Indian corn, pea and bean haulm, and the straw of grain not wanted in the stables.—To still further augment the mass, leached ashes and swamp earth may be added to great advantage. These materials will absorb the liquid of the yard, and becoming incorporated with the excrementitious matter, double or treble the ordinary quantity of manure.—During the continuance of frost, the excavation gives no inconvenience; and when the weather is soft, the borders afford ample room for the cattle. In this way the urine is saved, and the waste incident to rains, &c. prevented. The cattle should be kept constantly yarded in the winter, except when let out to water, and the yard frequently replenished with dry litter. Upon this plan, from ten to twelve loads of unfertilized manure may be obtained every spring for each animal; and if the stable manure is spread over the yard, the quality of the dung will be improved, and the quantity proportionably increased. Any excess of liquid that may remain after the dung is removed, can be profitably applied to grass, grain, or garden crops. It is used extensively in Flanders, and in other parts of Europe.

Having explained my method of procuring and preserving the food of vegetables, I will proceed to state my practice in feeding or applying it. It is given, every spring, to such hoed crops as will do well upon coarse food, (my vegetable hogs and goats.) These are corn, potatoes, ruta baga, beans, and cabbages.—These consume the coarser particles of the manure,

which would have been lost during the summer in the yard; while the plough, harrow and hoe eradicate the weeds which spring from the seeds it scatters. The finer parts of the food are preserved in the soil, to nourish the small grains which follow. The dung is spread upon the ground as evenly as possible, and immediately turned under with the plough. It is thereby better distributed for the next crop, and becomes intimately mixed and incorporated with the soil by subsequent tillage. Thus, upon the data which I feel warranted in assuming, a farmer who keeps twenty horses and neat cattle, will obtain from his yards and stables, every spring, 300 loads of manure, besides what is made in summer, and the product of his hogsty. With this he may manure annually ten or twelve acres of corn, potatoes, &c. and manure it well. And if a proper rotation of crops is adopted, he will be able to keep in good heart, and progressively to improve, sixty acres of tillage land, so that each field shall be manured once every four or five years, on the return of the corn and potato crop.

(From Buckingham's New England Magazine.)

SHEEP AND SHEPHERDS IN FRANCE.

Sanfoin and trefoil, among the grasses, give the bright tinge of their blossoms to extensive fields. There are neither fences nor hedges to secure the growing crops from the cattle. They are not, therefore, permitted to range the roads at large, as is common in the United States. No fences, indeed, are even used to divide the meadow lands, pastures, and fields of grain, of neighboring farmers; but the crops of all sorts are growing as it were sociably together, without a ditch or embankment to divide them. It must be obvious, that under such circumstances it would not answer to turn out cows, sheep or horses, into a pasture, to range uncontrolled, as is done by New England farmers on their well-fenced lands. A string tied to a peg at one end, and to the leg of a horse or the horn of a cow at the other, usually limits the range of their grazing excursions. The extent of the rope serves as the radius of the circle, about which they vibrate from side to side, to crop the grass.

For want of suitable fencing materials, shepherds and shepherdesses are still to be found in the fields of France, as a substitute for rail fences and stone walls. Their services are not necessary to protect their flocks from the depredations of wolves, but for a very different purpose; to protect the growing crops, which border the pastures, from the depredations of the sheep. To relieve themselves of the laborious duty of running back and forth constantly, between the verge of the fields of grain and the sheep pasture, the shepherds have resorted to the sagacity of dogs.

They appear to be an indolent race, lying down upon the grass at their ease, whilst their ever active dogs take upon themselves the whole management of the flock. These dogs, as if conscious of their elevated station, and of the importance of the command entrusted to them, over the herd of subordinate animals, stride gravely along the edges of the pastures, like trusty sentinels, displaying, in their very step and mien, what might almost be deemed an air of magisterial dignity. Where the range of the pasture is extensive, two or more dogs are necessary. They pace back and forth, meeting each other with the regularity of sentinels, half way on their allotted round, and wheeling about them to retrace their line of march.

A French gentleman stated to me, that so great are the docility and sagacity of well-trained shepherds' dogs, that their masters have only to take them around the limits of the grounds allotted for the range of the flock, and to designate properly the bounds or lines for them to traverse, when they seem to comprehend the end of their task, and will suffer no errant sheep to transgress them. When a nose is seen projected over this line, to crop the herbage beyond it, the dog

hastens silently to the spot. I noticed one of them, attending a flock near Lille, to give a sudden and loud bark at the very ear of the trespassing sheep, who, in his agitation at the unexpected rebuke, wheeled completely round, as if stunned. Thus it appears to be the business of the shepherds' dog, as well as of the shepherds, to watch, not so much for the safety of the flocks, as for that of the adjacent, unfenced fields of grain.

The shepherd-dogs sell for one or two hundred francs each, according to the excellence of their education, as the postilion expressed himself in reply to my inquiries. The shepherds themselves frequently take up their abode in the field during the summer, sleeping at night in the little portable houses or sheds mounted on wheels, which they move about at pleasure on changing their pastures. I have seen them travelling along the roads between the sheep pastures and the houses from whence they get their supply of food, with wallets or scribes, probably somewhat after the fashion practised by the primeval shepherd, David. The shepherdesses, as well as the shepherds, from their constant residence in the fields and exposure to the sun, have complexions quite as brown as those of the native Indians or squaws of America; and, judging from appearances, one would suppose them to be about as susceptible of sentimental loves. Pastoral life, as depicted in poetry, like many other conceits of the poet's imagination, loses a portion of its charms when viewed in the sober light of truth. The idle life led by shepherds of ancient days allowed them such ample leisure to make love, that the very terms “swain,” and lover, have become synonymous.

CURING BACON.

I see a great many receipts for curing bacon, recommending the addition to common salt, of saltpetre, molasses and other articles. All this is arrant quackery. Every thing beside salt is absolutely injurious. Saltpetre is particularly so. I speak from much comparative experience. Whatever of other articles is added, excludes, of course, the incorporation of a portion of salt, which is the only preservative. Color may indeed be imparted, but the flavor is injured, flies and bugs invited, and putrefaction favored. I know nothing of political economy, nor whether it was wise, by taking off the duties, to put down our own manufacture of sea salt, by favoring the introduction of Liverpool salt, but I know that the latter will not make bacon of the first quality, as it contains deleterious foreign substances.

Cousin TABITHA.

MISCELLANEOUS.

(From the North American Review.)

HABITS OF INSECTS.

Insects are now a formidable body, and were much more so in former times, when their habits and persons were less familiarly known. Men had not begun to ask from whence they came, nor whether they were going; but they found them when they least desired their company, and there was a sort of mystery in their movements, which, more than any thing else, tends to inspire the feeling of dread. It was on this account that they were first distinguished by the name *bug*, which, however it may have degenerated into a watch-word of contempt at the present day, was formerly synonymous with ghost or spectre, and equally alarming. The passage of scripture from the Psalms, “Thou shalt not need to be afraid of any bug by night,” as it stood in Matthew's old English Bible, is probably known to our readers. Later translators have judiciously substituted a more general word in its stead. But even now, considering their power to destroy our peace, there is some reason to fear them, and were there nothing else formidable about them,

their numbers are sufficiently alarming. When we hear their concert on a summer evening, it sounds as if every leaf and every blade of grass had found a voice; though, in fact, there is no voice in the matter. They deal wholly in instrumental music; some have heard a voice-like sound proceeding from a moth occasionally, but their concert,—great nature's hum,—is produced by rubbing the hard shells of the wings against the trunk or together, which makes a sharp and shrill sound, that can be heard at a considerable distance. The hum of insects on the wing can be heard when the performer is invisible. We remember, that once standing in a summer day on the top of a high hill, we heard a sound as of a million of bees directly over our head, when not an insect, which could be held responsible for any noise, was within our view. Such cases are not uncommon, and the only explanation is, that the authors of the sound are distant, and its loudness deceives us into the impression that it is nigh.

We will suggest some advantages of an acquaintance with this subject; we mean a general acquaintance, such as popular works are calculated to give. For example, the insect called the death-watch was formerly thought to sound the alarm of death to some inmate of the mansion where it was heard, though it would have required a perpetual cholera to have fulfilled half the number of his predictions. Now, it is known to proceed from a little wood boring insect, whose skill is somewhat hard, and who uses it for the purpose of a signal to others. Standing on its hind legs, it beats regularly on the board a number of times,—a process, which, comparing its force with the size of the insect, one would think more likely to be fatal to itself than to those who hear it. The bug, so well known in connexion with "rosy dreams and slumbers light," when it was first imported into England, occasioned equal dismay,—an alarm not wholly superstitious and unreasonable, when we remember how often it has "murdered the sleep of the innocent as well as the guilty." If we may believe David Dean, the Scotch bewail its introduction among them as one of the evils of the union, and for that reason distinguish it by the name of the English bug. The history of the Hessian fly, which made its appearance at the close of the American war, and which certain aged people, believing it to be a consequence of our separation from the British government, named the Revolution fly, shows how much alarm and trouble ignorance of the character of a little insect may occasion. They first appeared in Staten Island, and spread rapidly, destroying the wheat on their way. They passed the Delaware in clouds, and swarmed like the flies of Egypt, in every place where their presence was unwelcome. The British, naturally disliking every thing that savored of revolution, were in great fear lest they should reach their island, and resolved to prevent it, if necessary, with all the power of their fleet. The privy council sat day after day; despatches were sent to all the foreign ministers; expresses were sent to the custom houses to close the ports; Sir Joseph Banks, who held such matters in special charge,—as Swift said Mr. Flamstead was once appointed by government to look after the stars, was called upon to exert himself, with such importunity, that if such a thing were possible, he grew almost profane upon the occasion. He shouted across the ocean to Dr. Mitchell, while the doctor stood wringing his hands upon the western shore. When he had collected all the information which could be furnished by scientific and practical men concerning the bug in question, amounting to more than two hundred octavo pages, he enlightened the government with the information, that he did not know what the creature was; a report satisfactory as far as it went, no doubt, but which might, for aught that appears, have been reduced to somewhat smaller dimensions. If any one could have furnished a scientific description of the insect, it might probably have been arrested in its depredations, and if not, there would

have been some consolation to men, could they have pointed it out to the indignation and scorn of the world.

Our cultivators can furnish illustrations enough of the evils of ignorance on this subject. The common locust, *Robinia pseudacacia*, whose velvet leaf exceeds other foliage in beauty, as much as its wood exceeds that of other trees in value, is almost ruined in New England by the larvae of a moth, which is known to naturalists, but which no means have yet been able to destroy. We know that in plantations lately made, the ravages of the insect have been confined to their sunny borders; but we greatly fear, that in a year or two, they will carry their inroads into the heart of the groves. Certainly, the fine trees of this description which fringe the highways and surround the cottages, must be given up to this little pest, which, so far as we know at present, will only cease from its labors on condition of being cut in two. The caterpillar, too, is waging a war of extermination upon our fruit trees. After passing the winter in the ground,—would that it were its grave,—the insect makes over the tree to its heirs, which can only, with our present knowledge, be checked by means, that like curing the headache by amputation, are too effectual for the end proposed. Pear orchards resemble the gardens of the French nobleman, mentioned by Madame De Stael, which were planted with dead trees in order to inspire contemplation; not knowing enough of the borer to be able to bring him to justice, the cultivator can only sigh over his more than lost labors. But for Dr. Franklin, it would have been more common than it is now, and the practice is by no means obsolete, for every family to supply itself with moschetoes by keeping large open vessels of water near their houses, as if for the special benefit of this insect, whose bark and bite are equally undesirable. The moschetto lays his eggs upon the water, where they are hatched into grubs, which float with their heads downward; when the time for their change is come, they break through their outer covering and draw themselves out standing upright, so that they appear like a vessel, the corslet being the boat, and the body officiating as mast and sail. Their former sea-change is now reversed; for, should their naval establishment overset, they are inevitably lost moschetoes. As soon as their wings are dried, they fly away to their work of blood. As six or seven generations are born in a summer, and each mother can furnish two hundred and fifty eggs, it is evident that a vessel of water, properly neglected, will people the air of a whole neighborhood. But there is no end to the list of evils arising from ignorance on this subject. One of the choicest specimens of it we have ever heard, is that of gardeners in Germany, who collect and bury grubs in order to destroy them, a mode of destruction quite as fatal, as that of throwing fish into the water to drown them.

It would be easy to give some striking illustrations of the advantage of knowledge on this subject. The manner in which peach trees are secured from the depredations of the insect which every year destroys many, is familiarly known. The insect deposits its eggs in the bark of the tree, as nearly as possible to the surface of the ground. When it is obliged to resort to the branches, besides that it is more easily discovered by the gum which flows from the wound, the grub would generally be arrested by the cold before it would make its way to the root, where it retreats in winter. By ascertaining the time when these eggs are laid, and tying straw or matting round the trunk of the tree, its injuries are easily prevented. We are persuaded that the ravages of the clothes-moth, the creature to whom food and raiment are one, might be prevented by exposing clothes to the light at the time of oviposition. When the timber was found to be perishing in the dock yards of Sweden, the King applied to Linnaeus to discover a remedy, thus acknowledging the dependence of commerce, national defence, and royal power, upon humble sci-

entific researches. He ascertained the time when the insect deposited its eggs, and by sinking the timber in water at that period, the evil was effectually prevented.

We certainly receive many serious injuries at the hand of the insect race. But they are not wholly unprovoked; nor can it be denied, that if they torment us, we also torment them. It is to be hoped that the time will come, when we shall be able to deal with them as with larger animals, exterminating those which cannot be employed in the service of man. At present, however, their ingenuity, their perseverance, and their numbers, render it hopeless for man to make any general crusade against them. But we have little to complain of, compared with the inhabitants of warmer climates. Dr. Clark tells us, that in the Crimea, he found the moschetoes so venomous, that in spite of gloves, and every other defence, he was one entire wound. In a sultry night, he sought shelter in his carriage; they followed him there, and when he attempted to light a candle, they extinguished it by their numbers. In South America, there are countless varieties; some pursue their labors by day, and others by night; they form different strata in the air, and new detachments relieve guard as fast as the former are exhausted. Humboldt tells us, that near Rio Unare the wretched inhabitants bury themselves in the sand, all excepting the head, in order to sleep; we should think that, in such a condition, they would be sorely tempted to make no exception. Even this is not so great an evil as the destruction made by the white ants among papers of all descriptions. The same authority mentions, that there are no documents of any antiquity spared by this destroyer; it invades the tenure of property, the duration of literature, the record of history, and all the means of existence and improvement, by which civil society is held together. It is melancholy enough to see gardens, fields, and forests sinking into dust; but we must confess that this last calamity quite exceeds all others.

To those who resent these injuries, it may be consoling to know that the means of ample vengeance are within their reach, and if they choose to follow the example of those who kill and eat insects, the insects will certainly have the worst of the war. The Arabs, as is well known, eat locusts with great relish, though, for reasons, not certainly founded upon the disparity of outward favor, they look with abhorrence upon crabs and lobsters. Hottentots, also, delight to have locusts make their appearance, though they eat every green thing, calculating with some foresight, that as they shall eat the locusts, they shall not be losers in the long run. This people, who are far from fastidious in any of their habits, also eat ants boiled, raw, or roasted, after the manner of coffee; and those who can overcome the force of prejudice, so as to try the experiment, confess that they are extremely good eating. Kirby, the English naturalist, bears his testimony to this effect. Smeathman says, "I have eaten them dressed in this way, and think them delicate, nourishing, and wholesome; they are something sweeter, though not so cloying, as the maggot of the palm-tree snout beetle which is served up at the tables of the West India epicures, particularly the French, as one of the greatest luxuries of the country. In parts of Europe the grub of some of the beetles are highly esteemed; the *Cerambyx* is the delight of the blacks in the Islands; the inhabitants of New Caledonia are partial to spiders. *Epidem non invidio, miror magis*. It is highly probable that a large proportion of insects were intended by providence for food; and if we will not eat them, it is unreasonable to complain of their numbers.

STING OF THE BEE.—It may not be generally known that common whitening proves an effectual remedy against the effects of the sting of a bee or a wasp. The whitening is to be moistened with cold water and immediately applied. It may be washed off in a few minutes, when neither pain nor swelling will ensue.

Prices Current in New York, August 25.

Beeswax, yellow 18 a 20. Cotton, New Orleans 104 a. 13; Upland, 8 1/2 a 11 1/2; Alabama, 9 a 11 1/2. Cotton Baling, Hemp, yd 13 a 21 1/2; Flax 13 a 14 1/2; Flax, American, 7 a 8. Flaxseed, 7 bush, clean —; rough —; Flour, N. York, bbl. 6.00 a 6.50 —; Canal, 6.25 a 6.50; Bait, Hvd-st. — a 7.00; Rh'd. city mills 7.25 a —; Country, 6.68 a —; Alexandria, 6.62 a 6.87; Fredericksburg — a —; Petersg. — a —; Rye Flour, 4.50 a —; Indian Meal, per bbl. 3.37 a 3.50 per bbl. 16.00 a —; Grain, Wheat, North, 1.24 a —; Vir; 1.28 a 1.32; Rye, North, — a 60; Corn, Yel. Nor. 76 a 77; Barley, — a —; Oats, Sts. and North, 42 a 48; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess 9.50 a 10.75; prime 5.37 a 6.00 cargo — a —; Lard, 7 a 8 1/2; Pork, mess, bbl. 13 50 a 14.00; prime 10.75 a 11.00.

STRAWBERRY PLANTS.

The following varieties of Strawberry plants are for sale at the experimental farm connected with the American Farmer establishment:—

NEW PINE. This is probably the best of all the varieties for productiveness, flavor and size of fruit, many of which measured the past season four inches in circumference, without the slightest attention to culture or thinning out. Price \$2 per hundred.

EARLY SCARLET, LATE BOURBON PINE, LARGE EARLY SCARLET, price \$1 per hundred.—

These three kinds are those from which gardeners generally supply our market.

Roseberry, Downton, Grace End Scarlet, Bath Scarlet, Duke of Kent's Scarlet, Raspberry Hawthorn, New Black Musk Hawthorn, Wilmot Superb, Keene's Imperial, Keene's Large Scarlet, fifty cents per dozen.

MELON, METHVEN CASTLE, new and splendid varieties, \$1 per pair.

The best season for transplanting Strawberries is the latter end of August and September. The plants can be put up and sent to any part of the union. Orders should be sent immediately to

I. I. HITCHCOCK,
Office American Farmer.

RHUBARB PLANTS.

We have also for sale RHUBARB PLANTS, for tarts, for a notice of which see this week's number of the Farmer. Price, for year old plants, 12 1/2 cents each—for two year old or upwards, 25 cents each.

Also, SEAKALE PLANTS, 25 cents each.

ORCHARD GRASS SEED FOR SALE, &c.

The subscriber has in store for sale Orchard Grass Seed of superior quality.

He is also prepared to receive orders for FOX & BORLAND'S PATENT THRESHING MACHINES, which will probably supersede all others, from their simplicity and durability, and the speed with which they thresh; they will also shell corn and break the cob fine for feeding cattle, &c.

J. S. EASTMAN.

STRAWBERRY PLANTS, TURNIP SEED, &c.

The subscribers are now prepared to deliver to order, Strawberry Plants of the most approved kinds, which will be packed so as to warrant their safe arrival at any part of the United States. The months of August and September being the most favorable season for transplanting, it will be well for those who wish to purchase, to give their orders early, and by care in planting, with an occasional watering, fine plants may be produced.

The kinds now on hand are, large Early Scarlet; large dark old Pine; French red Alpine and Faulkner's late Scarlet, at 25 cents per dozen, or \$1 per hundred; large dark Musk Hawthorn; new black musk do; white monthly; scarlet Lima; Dawson, Wilmot's superb; Roseberry, at 50 cents per dozen, or \$2 per hundred.

Our nursery is rapidly progressing towards the point destined at its commencement. We have now closely planted about 18 acres with fruit and ornamental trees, shrubs and vines.

TURNIP SEED of various kinds and many other fresh seeds, for summer and fall planting.

SINCLAIR & MOORE,

Aug. 10. Grant street, near Pratt-st. wharf.

BLOODED HORSES, BROOD MARES, AND COLTS FOR SALE.

At the residence of the late Alexander F. Rose, Esq. in Stafford County, Vir.

No. 1. ch. m. FLORA, fourteen years old, out of Miss Dance, by Ball's Florizel.

As the character of Florizel is so generally known, and ranks him among the most distinguished horses of his day, it is deemed only necessary to say, he was the sire.

No. 2. b. m. PET, ten years old, out of Miss Dance, by St. Tammany.

St. Tammany, the sire of Pet, was full brother to Florizel, and bred by Maj. John Roberts, of Culpeper, who purchased him sucking colt, and, when only three days old, gave him 100 guineas. When a year old he was put in training by Maj. Roberts, but an accident occurring, was withdrawn from the turf. In point of performance and appearance, his judicious owner esteemed him at that age as promising to be fully equal if not superior to his brother Florizel.

Miss Dance, the dam of these two mares, was by Roebuck, was bred by Col. Dance, of Chesterfield, and is well known to have been one of the finest mares in Virginia. When twenty-three years old, and owned by Maj. Roberts, \$500 was offered for her and refused. The dam of Miss Dance was by Independence, grand dam by the imported horse Centinel, or Flimnap, g. grand dam by the imported horse old Janus. Roebuck was by the imported horse Sweeper, son of Mr. Beaver's Great Driver; his dam by the imported horse Bagazet, son of the Earl of March's old Bagazet, son of the Godolphin Arabian.

These two mares are now in foal by Carolinian, a distinguished son of Sir Archy; and out of them are the following colts:

1. a ch. f. three years old, out of Flora, by Lafayette.
2. a ch. f. two years old, out of Flora, by Contention.
3. a b. f. two years old, out of Pet, by Contention.
4. an iron grey, one year old, out of Pet, by W. R. Johnson's Medley.

No. 3. ch. m. Virago, eight years old, by Wildair, dam by the imported horse Hamilton, grand dam by Spread Eagle. Wildair was by Ajax, and bred by Col. K. Walker, of Amherst, his dam by Knowsley, grand dam by Highflyer, g. grand dam by old Wildair, g. g. grand dam by Asael, g. g. grand dam by Aristote, g. g. g. grand dam the celebrated running mare Hlexiford.

Out of Virago, is a fine two year old filly, by Contention, and she has now by her side a beautiful bay filly, by Governor Barbon's imported horse Young Trulle, and is now in foal by Carolinian.

No. 4. ch. m. Nettle, seven years old, full sister to Virago, has now by her side a fine colt, by Young Trulle, and is now in foal by Carolinian.

No. 5. ch. m. Cora, six years old, full sister to Virago and Nettle, and in foal by Carolinian.

Out of Cora, is a beautiful ch. f. one year old, by Contention.

Application to be made to the Executors of Alexander F. Rose, deceased, Fredericksburg, Virginia.

Aug. 10. 2ms

ORCHARD GRASS SEED WANTED.

The subscriber wishes to purchase a few hundred bushels of PRIME ORCHARD GRASS SEED, that is clear from noxious seeds, for which cash will be given.

J. S. EASTMAN,

Pratt street, near Hanover.

Who has in store RUTA BAGA and TURNIP SEEDS, and a general assortment of GARDEN SEEDS, thirty-four pounds EARLY YORK CABBAGE SEED, just received from London.

Also, his general assortment of AGRICULTURAL IMPLEMENTS, such as Wheat Fans, Corn and Tobacco Cultivators, Corn Shellers, Harrows, his Patent Cylindrical Straw Cutters, and common Dutch Cutting Boxes, &c. &c. Wrought and Cast Share PLOUGHS, of all sizes, from a small six inch Seed Plough, to the largest Three Horse Plough, all of which are made of the best materials and warranted, and with his very reduced prices, he hopes to merit a liberal patronage.

ORCHARD GRASS SEED.

A small lot of Orchard Grass Seed, of present year's growth, just received and for sale by

Aug. 10 SINCLAIR & MOORE.

WANTED.

At the American Farmer Office and Seed Store, all kinds of GRASS SEED, CLOVER SEED, and choice Domestic Animals of all kinds. Apply to

I. I. HITCHCOCK.

BALTIMORE PRICES CURRENT.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a —.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00.

FLOUR—best white wheat family, \$7.25 a 7.50; super Howard-street, — a 6.62 1/2; city mills, 6.37 a 6.50; Susq. — a —; CORN MEAL bbl. 3.50; GRAIN, best red wheat, \$1.20 a 1.23; white do 1.25 a 1.30; Susq. —.—CORN, white, 63 a 64, yellow 67 a —; RYE, 70 a —.—OATS, — a 35.—BEANS, 75 a 80.—PEAS, 65 a 70.—CLOVER-SEED — a —.—TIMOTHY, — a —.—ORCHARD GRASS 2.00 a 2.25.—Tall Meadow Oat Grass — a —.—Herd's, 75 a 87 1/2.—Lucerne — a 37 1/2 lb.—BARLEY.—FLAXSEED 1.50 a 1.62.—COTTON, Va. 8a10.—Lou. 9 a 13.—Alab. 8 a. 11 1/2.—Tenn. 1st p. 31 a 31 1/2; in bbls. 33 a 33 1/2.—WOOL, Washed, Prime or Saxony Fleece 50 a 60; American Full Blood, 45 a 50; three quarters do. 40 a 45; half do. 35 a 40; quarter do. 30 a 35; common 25 a 30. Unwashed, Prime or Saxony Fleece, 30 a 35; American Full Blood, 27 a 30; three quarters do. 25 a 27; half do. 22 a 25; quarter do 20 a 22; common, 17 a 20 Hays, Russian, \$2.00 a —; Country, dew-rotted, — a 7c. lb. water-rotted, 7a 8c.—Feathers, 36 a 37; Plaster Paris, per ton, 42 1/2 —; ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 53.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Susq. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.00 a 5.50.—Oak wood, 3.37 a 3.75; Hickory, 4.50 a 5.00; Pine, 2.25 a 2.75.

CONTENTS OF THIS NUMBER.

Editorial; Rhubarb; Singular Fact in Agriculture; Receipt for Fattening a Calf; Domestic Silo Manufactory—Lime; To Preserve Sweet Potatoes—Value of Horses about to be brought to this Country—To Prevent Horses being Teased by Flies—Improvement of Sheep; The Number of Sheep in Maine; What Breeds, when and by whom brought into Maine; Best mode and Expense of Keeping Sheep; What Diseases subject to; General Remarks on the different Breeds in Maine, by a Sheep Breeder of that State; and also some Observations and Suggestions, by R. K. Meade, Esq.—Cleaning Meadows, &c. of Weeds—Cutting Corn Stalks—Method of Performing Inoculation or Budding—On the Cultivation of Rhubarb, by Dr. Devan—Notice of the Stone Pine—Novelty in Horticulture—Remarks on the Construction and Management of Cattle Yards, by Judge Uel—Sheep and Shepherds in France—Cousin Tabin on Curing Bacon—Habits of Insects—Cure for the Sting of the Bee—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, basement of Barnum's City hotel,) by I. IRVINE HITCHCOCK, on the following

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged by the year, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of back numbers, in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at our dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

— All Postmasters are requested to act as agents for the Farmer, they are authorized to retain \$1 for each new subscriber, and 10 per cent. on all other collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, SEPTEMBER 7, 1832.

THE VINE.—The Editor of the United States Gazette gives us the following hint on the culture of the vine in cities. Will he do us the favor to say what kind of grape vine it was that was coaxed, directed, and drawn to the top of the house? for "some things" cannot be done with some vines "as well as others."

"A grape vine may be directed to almost any point, and almost any distance. We visited the house of a friend a few days since, who was fond of cultivating the grape, but had, as it would seem to others less interested in the pursuit, no convenience for the purpose. The yard attached to his dwelling was but a few feet square, and the sun never darted its rays upon its moist brick pavement, nor was the area enlarged above, even to the top of his house, three stories high. He, however, "planted a vine," it came up, he trimmed it, coaxed it, directed and drew it in a straight trunk until it attained the height of *fifty-three feet*, level with the trellace on the roof of his house. He then gave it a horizontal direction, and permitted the branches to shoot out, which they did kindly; and after covering an arbor extending over the whole roof of the building, they produced grapes enough to make some excellent wine. Grape vines may be raised by every housekeeper in this city, whether there is or is not a yard to the building. In Spain, we are told that house-keepers who lack room on the earth, remember that *ground rent* is cheap in the air, and they accordingly put down a vine cutting in the cellar, and direct it upwards through the cellar window, to the roof of the house."

The Genesee Farmer informs us, that "most of the tender kinds of foreign varieties [of grapes,] which were not buried last winter, were badly injured, which was never known to happen in the Genesee country before, since it has been settled." Are we to understand from this, that even the *tender foreign vines* generally withstood the severe winters of the Genesee country without protection? Even here all tender foreign vines require more or less protection in winter; and, except in cities where they have the shelter of high walls and the temperature of a city atmosphere, most foreign vines are destroyed unless protected in some way. Very few of our native grapes require this protection—indeed we know of none that do that are generally cultivated. Will the Genesee Farmer be good enough to inform us what kinds of foreign grapes have generally withstood the winters of the Genesee country? We might draw useful conclusions from such information. How are we to account for the fact, that vines are uninjured in the Genesee and destroyed in Maryland by the inclemencies of winter? The Genesee country is about four degrees directly north of Maryland, consequently the cold is much more intense than with us. If plants withstand the low temperature of that country and perish with us, therefore, it is clear that it is not the cold weather that destroys them with us. What, then, is it? We have long thought that it was not so much to the severe cold, as to the frequent alternations of low and high temperature, that we ought to attribute these injuries. Generally, our winters exhibit a succession of freezing and thawing, often almost "day about;" consequently there is a continual expansion and contraction of the sap vessels. Another cause of injury we apprehend may be found in the effects of a warm sun on the frozen plant. After a hard frosty night, were we to shade our vines from the warm sun of the succeeding day, we are persuaded that much injury might be avoided. In any considerable vineyards this would of course be impracticable, but we would suggest that even there it might be done to some extent with no very great cost. Bass mats can generally be procured at about 125 cents each; one of these might be thrown over each vine every morning

after a hard frost, and removed and carefully housed in moderate weather. The vine that would not authorize such an expenditure of time and money, would surely not be worth preserving.

(From the American Railroad Journal.)

AMERICAN RAILROAD JOURNAL,

PUBLISHED IN NEW YORK.

The very favorable reception which our Journal has met from hundreds of the most intelligent, scientific, and practical friends of internal improvement in different parts of the Union, has induced us to make another effort to render it more generally known throughout the United States.

It has been frequently observed to us, that its title indicates an exclusive devotion to the subject of *Railroads*. That, however, is not the fact. An acquaintance with its columns will convince any person that its object is the *improvement of internal communication*; and it is to as a matter of indifference what the mode of improvement may be, provided it is that most suitable to the circumstances and business of the section intended to be benefited. Railroads, Canals, McAdam Roads, or Steam-Carriages upon common roads, where they are known, have each their advocates; and it is the object of this Journal, which will hereafter bear the title of "Railroad Journal, and Advocate of Internal Improvements," to collect, embody, and disseminate information upon that subject generally; and to become a repository of whatever may be worth preserving for future reference, in relation to them. Selections for it will be made from the best works upon Railroads, from Mr. McAdam's work on Road-making, the London Mechanics, and Edinburgh Farmers' Magazine, the American Journal of Science, the United Service, and other Journals; from the report of a special committee of the British House of Commons upon the use of Steam-Carriages on common roads; from regular files of London and Liverpool papers, together with an extensive exchange list from all sections of the Union.

It will contain selections upon agricultural subjects from the best works published in this country; and also in relation to the cultivation of the vine, and the manufacture of silk;—as well as the most interesting news of the day, both foreign and domestic; with a weekly review of new publications, and such political matters as may be of general interest and worthy of record, omitting every thing of a party nature. Also, meteorological tables kept at Montreal, Troy, city of New York, Charleston, S. C., Mobile, and New Orleans, or its vicinity, thereby showing at a glance a comparative state of the weather in different sections of the country, which may be highly interesting to men of science. It will also contain a Bank Note Table, Price Current, and what is generally first looked for, a long list of deaths and marriages. A small space will also be devoted to advertisements relating to the subject of internal improvements.

The terms of the Journal are \$3 per annum *in advance*. It will be seen on a moment's reflection, that it cannot be afforded at that price unless payment is made in advance; as, if we were to send it without, and then be obliged to send a collector at a heavy expense for the money—some of which would never be collected, as there are those who think it is quite enough to "patronize" a newspaper by taking it, without an idea of ever paying for it—the receipts would not pay its expenses.

The Journal is published upon a sheet of the largest size, and folded into an octavo form of 16 pages, containing three columns each—a very convenient size for binding, if it should be deemed worth preserving; and we are gratified to find, that thus far almost every subscriber has ordered it from the first number, with that intention.

We have now on hand and shall be able to furnish the back numbers complete for five hundred new subscribers—an accession which we should be very happy to receive soon, as it would enable us to make the

work much more valuable, not only to its readers, but also to the *publisher*, as it would enable him to devote more time and expense to its columns.

Companies of ten or more will be furnished at \$2 50; or where two subscribers will remit \$10, they will be furnished with the Journal for two years each, beginning with the first number.

In order to establish that confidence in its permanency, which is essential to induce strangers to pay in advance for a work with which they are unacquainted, the Editor has been permitted to refer to the gentlemen whose names are annexed:

Wm. A. Duer, Esq., President Columbia College.

James Ronwick, Esq., Professor in do.

Robert L. Stevens, Esq.

James G. King, Esq.

Samuel Swartwout, Esq., Collector of the Port.

Messrs. Gracie, Prime & Co.

Messrs. Dwight Townsend & Co. Editors Daily Advertiser.

He is also permitted to publish letters from distinguished Engineers who have been familiar with the Journal from its commencement; and he assures those who may take an interest in its success, that it will be continued, and every engagement of the Editor promptly fulfilled.

FOREIGN MARKETS.

LIVERPOOL, August 1.

The transactions in Cotton last week were more than double the amount of the preceding one, having comprised 19,070 bales, including 520 Sea Islands at 11½ a 14; 100 Stained, 7 a 9½; 7,600 Uplands, 6½ a 7½; 100 at 7 5-8; 3,100 Orleans, 6¼ a 9; 3,900 Alabama, 6½ a 7.

Confidence was restored to the market during the week, and the turn was in favor of sellers; dealers have operated more freely than of late, their stocks being understood to be moderate, and speculators assisted the business by taking about 1500 bales of American, of which description 700 were sold for export. Sea Islands continue in request, with an upward tendency in prices—the import of the week was only 4500 bales, including 460 from the United States. For three days past the market has been quiet, but prices remain as before—the sales in that period are estimated at 6000 bales.

The supplies of Wheat from the interior having fallen off, millers have directed their attention to Canadian, the sales of which have been considerable, but at a decline of 2s. a 3s. per quarter. Irish has been neglected; and in flour scarcely any thing done—700 bbls. New Orleans (sour, in bond) sold at 17s. per bbl., and some Canadian, duty paid, at 34s. a 35s. per bbl.—the weather remains extremely seasonable. Tobacco.—The sales of the month are only 434 hds, viz: Virginia leaf, 58, and 320 of stemmed; 48 Kentucky leaf, and 13 stemmed. Our present stock consists of 6243 hds. against 5060 at this period last year.

LONDON CORN EXCHANGE, July 30.

Supplies have been small this past week, and we have had a limited demand for immediate consumption, at a decline of 1s. to 2s. per quarter, from our late prices for any thing of a good quality, while inferior samples are neglected, and as holders of this description are anxious to get rid of stock, a greater reduction would readily be submitted to by buyers offered.

LIVERPOOL CORN EXCHANGE, July 31.

This week the imports are again very small, but the deficiency is amply supplied by the general disposition to make sales out of the granary stocks.—The business in Wheat since Tuesday has been to a fair amount, besides several parcels of Canadian sold at 85s. 5d. to 85s. 6d. for red, and 9s. 4d. to 9s. 6d. for white. Flour still moves freely, and without any reduction in price. Indian Corn has also begun to attract attention for feeding purposes. A little New Orleans sour Flour sold at 17s. is the only transaction reported during the week, in the bonded market, there are several orders at 16s. per barrel.

AGRICULTURE.

(From the New England Farmer.)

MASSACHUSETTS AGRICULTURAL SOCIETY.

ON THE BEST CULTIVATED FARMS.

BENJAMIN GUILD, Esq.

Sir,—I wish to offer my farm for premium. It lies in the east part of the town of Pittsfield, upon Boston and Albany stage road, containing two hundred and fifty acres or thereabout. The soil is alluvial and loam; forty acres of it good woodland, principally covered with sugar-maple. I have also, in one square lot, forty acres of meadow, almost perfectly level, and overflowed by the waters of the Housatonic river (by which it is bounded on the east,) in the spring of the year when the snow melts away, generally, and sometimes twice or thrice in the year; so that it never requires any manure; and I have nothing to do but to keep up my fences and cut the grass, which is all of an excellent quality, consisting of herds or timothy, clover, and fine English; has produced this year one hundred and six loads, which we have estimated to weigh one ton each, as we get it in, well made. This lot lies upon the east side of the road, opposite to my house; and the residue of my farm upon the west side of the road, pretty nearly in a square form, a little elevated above the meadow, say eight or ten feet, and rises but little to the western extreme of the farm. I have an orchard lot, consisting of about eighteen acres, which I mow, and which has produced this year twenty-three loads, which we have estimated at one ton each, of excellent hay; making in all one hundred and twenty-nine loads.

The residue of my farm consists of pasture and tillage, say one hundred and forty-seven acres, all good, which I have improved alternately for pasture and tillage by a rotation of crops; first for wheat or rye, then corn, then oats or other spring grain, with clover and grass. I have improved it the present season as follows: Of winter crops twenty acres, called, but if accurately measured would fall a little short of that quantity; it has, however, produced 4565 sheaves, 900 of which we have threshed, and which yielded fifty-one and a half bushels of first quality rye; three acres of winter wheat, which produced 911 sheaves, of which we have not threshed any.

These two crops were sown upon old pasture land, summer fallowed, and without manure. The nine hundred and eleven sheaves of wheat, or sixty shock and eleven sheaves, will yield by fair estimate three quarters of a bushel to the shock, which will amount to forty-five and a half bushels. I have raised fourteen acres of oats on land on which I had beans last year. After putting a light sprinkling of manure of twenty loads, the fourteen acres produced 3080 sheaves, of which I have threshed 550 sheaves, which yielded fifty-four bushels; very nearly one bushel to ten sheaves. I have also raised two acres of spring rye, which produced 601 sheaves; of this crop I have not threshed any, but it is a good one, and so good as to give me the B. A. Society's first premium. I had oats upon the land last year, but I put twenty loads of manure upon it. I sowed two acres of marrowfat peas upon land on which I had potatoes last year, but the crop failed almost entirely, and I got but twelve bushels. I have also raised one acre of buckwheat where I had beans; put six loads of manure and sowed one bushel of seed, which produced seventeen bushels. I have also raised two acres of white beans, which is a very good crop, but which I have not been able to harvest. The time you have fixed on for making application, (1st October), is a little too early for my convenience, and I shall not be able to make my statement complete in all respects. For instance, it would be considerable loss to me, I should think, to thresh out all my grain thus early,

particularly oats, as the straw makes tolerable feed in winter; and it also furnishes employment for my man who takes care of the sheep and barn. Potatoes I have considered among the first and most valuable crops that the farmer raises; I have therefore made several experiments, and by far too many for my interest; yet my experience may be useful to others, and I have concluded to state some of my experiments, and offer some few remarks.

Some few years ago, believing that the quantity usually raised from an acre might be increased materially, I accordingly ploughed one acre of mellow land, dragged it, and furrowed it out at three feet apart, and filled the furrows with well-rotted manure. I then sorted out the largest and best potatoes, and planted them in the furrows on top of the manure, placing one potato every six or eight inches apart;—then planted in the whole forty-five bushels; they were well covered, and hoed three times, and at digging they were found to be almost all of them very small, not larger than walnuts, perhaps not as many good ones of good size as I planted. This I charged to the season as being unfavorable, and the subject passed off.

Two years since, I set out twenty-four cuttings of grapes in my garden, where the ground was rich, being well manured, by sticking the ground end into a small potato, about the size of a hen's egg, and placing that in the ground three or four inches deep; these were not hoed; the grapes all died, and in the fall I pulled and dug the potatoes somewhat early in the season, for eating. The quantity and large size excited the curiosity and astonishment of us all.—Last year I planted in the garden, by way of experiment, one of the smallest potatoes, one of middling size, and one of the largest, in separate hills; and then put two, and three, and four in hills, where the land was equal; the result was, that the single potatoes produced the largest and much the best, but not so many in number of small size. I have made several other experiments, and quite enough. Upon examining a potato, it will be found that each, whether large or small, has from six to ten eyes or sprouts; if it be fair to calculate that each sprout will produce from six to ten potatoes, each potato will yield from thirty-six to sixty potatoes, which number is by far too great to be congregated in the circumference of a hill; the consequence is, a great proportion of them are small, and if more seed is planted, the greater the number of small ones and less of large. This year I planted about three acres, and upon one acre I put forty-four loads of coarse manure from my sheep yards; the cart body somewhat heaped, say about thirty bushels to the load; spread it over the land and ploughed it in; then dragged, then furrowed at three feet apart one way only, and dropped the potatoes without sorting, the smallest as well as large, at about two and a half feet apart, and covered, and hoed them twice. I planted eighteen and a half bushels of seed. On the next seven-eighths of an acre, by the side of the first, I put twenty-five loads of manure, ploughed and furrowed as before, and dropped my potatoes single at three feet apart, planted seventeen bushels of seed, and hoed twice. The third acre was ploughed and dragged and furrowed as before, and a shovel full of manure, at about three feet, put in each hill, in all twelve loads, and hoed them but once, the same sort of seed in all, which is called the Burr potato, of flesh color, and excellent for table use. The result is as follows: The first acre produced 4254 bushels; the second, seven-eighths of an acre, produced 2504 bushels; and the third acre we have not completed the digging of, owing to the constant rains for the week past; but we have dug part of them, perhaps one-fourth part, and in such a way and places as to ascertain with a good degree of certainty, that this acre will not produce over one hundred and sixty bushels.

I have also raised one acre of ruta baga, which now promises a large crop. They are not sufficiently

grown to pull, therefore I cannot ascertain the quantity. The land was well fitted by putting twenty loads of manure upon it, before ploughing; then by spreading five loads of leached ashes and one load of unleached. I have strong hopes of a very large crop, although I do not consider it a very valuable one. I have also raised four acres of corn upon land on which I had corn last year, fitting it by putting seventeen loads of manure to the acre, by dunging in the hill.—The four acres, which I have measured accurately, as well as my potato lands, have produced four hundred and fifty bushels of ears.

I have ploughed and sowed five and a half acres of winter rye, or thereabouts, and two acres of winter wheat upon the land upon which I have raised potatoes. This I have fitted, and intend to sow this day.

In addition to the above, I have let out about nine acres of land to be sowed to oats, on shares or for one-half, and for which I have received 1347 sheaves. I have also let out about four and a half acres, which have been planted to corn, in the same way, or for one-half, and had it dunged in the hill. This is a fine crop, and not yet harvested; besides about one acre and a half more, for buckwheat and potatoes. The land on which I have raised my oats, I have seeded down to clover and grass seed principally.

The number of apple trees in my orchard is one hundred and forty-nine, and I have several others scattered over the farm. Seven years since, I put in one thousand grafts by contract, principally of winter fruit, such as greenings, spitzenbergs, gilliflowers, russets, golden sweetings, and seek-no-further, &c., of which I have a great abundance this year; but owing to the incessant rains for a week past, I have not been able to gather them. I shall have, probably, between 100 and 200 bushels. I have cider apples, and a great supply for family use, enough probably to make forty or fifty barrels, which I do not usually make until some time in October, and have not yet done it. My manner of making cider is the common one.

As to sowing grass seed, I usually seed down about ten acres annually, with four quarts of clover and four quarts of herdgrass to the acre, which I consider plenty for mowing land. I have made several experiments. After taking off a corn crop, I have ploughed and sowed nothing but grass seed; this was done in the month of October and it took well, but did not get to maturity fully the next season. I have also sowed with rye in the fall, and also upon snow covering wheat and rye, and also in the spring with spring wheat, rye and oats; and I am satisfied that to sow clover and herdgrass in the spring with oats, is the best time and way.

My barn is one hundred feet long and forty feet wide, standing east and west, with a floor through it lengthwise, over which is another floor, each twelve feet wide. Upon the south side of my barn I have a tier of stables extending the whole length, twelve feet wide, which is sufficient to put up twenty five head of cattle. I have one shed extending from the west end of my barn, south, one hundred and twenty feet, half of it twenty feet wide and the other half fourteen feet, capable of holding thirty or forty loads of hay overhead. I have three or four other temporary sheds of less value. My barn-yard is one hundred and twenty feet square, divided by a line of fence through the centre each way, making four yards of about sixty feet square, with a shed for each and a well of water in the centre, from which I water each. In each of these I have wintered about one hundred sheep, and make my manure principally by bedding them with straw. Of my sheep, I have now about the same number as last year, four hundred and thirty, having disposed of nearly as many as my increase by lambs. I sheared three hundred and fifty, which produced eight hundred and fifty-one pounds of first quality wool, sold for seventy-five cents per pound. I raised only eighty-four lambs, in consequence of a severe rain storm the first week in May,

which is the time I usually have them yeaned. I lost a considerable number. I keep them in separate flocks, and feed them in winter out of boxes prepared so that they can put in their heads on either side, and not waste the hay. This business of growing wool was my principal object in farming; but the low price the wool has brought for three or four years past, has almost wholly discouraged me. I have been disposed to reduce my flock about one half, because I could not grow the wool for the price it has brought. This year, however, it has brought a fair compensation for growing. My sheep are first quality. Merino and Saxony, the fleeces light. I have kept only two yoke of oxen, three cows, and three horses. From my cows, which are of the first quality, we have made butter only enough for family use. Of swine, I only keep and fat enough for family use, and some little surplus to pay laborers. I am now feeding six of the Byfield breed, which I intend to make weigh from 300 to 400 pounds each. I have one that will now weigh more than four hundred. I make my pork by boiling potatoes the fore part of the season, then pumpkins, provender and corn.

In addition to my crops, I shall have probably 30 bushels of English turnips. I have a large garden in which I put out one thousand cabbage plants; have raised six and a half bushels of onions, a great supply of beets, parsnips, carrots, winter squashes; besides water-melons, musk-melons, cucumbers, &c. I have ten peach trees, ten pear trees, and about one hundred filbert bushes, which have all borne finely, except peaches, with which I cannot succeed here at all.—As to amount of labor, I have had but one hired man for six months, to whom I paid ten dollars per month, or sixty dollars. I have two boys, almost men, belonging to my family, besides my own labor. I have paid for day laborers, according to my account, sixty-three dollars and fifty cents only. You will notice the amount of labor performed with little help and little expense, but I have yet considerably more to do; I have yet to cut, I think, more than ten loads of rowen hay, and intend to sow a number of acres of late rye. Having made no cider the last year, I made trial of molasses and water, but all would not do, I was obliged to furnish a little ardent to my day laborers to get through haying and harvesting; the precise quantity I do not know, but I think it would not amount to more than twelve or fifteen dollars. To recapitulate,—

58 acres meadow mowed and produced	129 loads hay.
20 do. rye	do. 4568 sheaves.
3 do. winter wheat	do. 911 do.
14 do. oats	do. 3080 do.
2 do. spring rye	do. 601 do.
2 do. marrowfat peas	do. 12 bushels.
1 do. buckwheat	do. 17 do.
2 do. white beans	
3 do. potatoes	do. 836 do.
4 do. corn	do. 450 do.
5 do. ruta baga	do. 500 estimate.

15 acres let out on shales, the produce of which not yet ascertained, except 1347 sheaves of oats. The residue of my farm is wood and pasturage.

In this statement, I believe I have not overstated or overated any item; and I am inclined to think that my corn, which we completed last evening, if accurately measured by stricken measure, would hold over something like a half of a peck to the basket, which we heaped.

I am, dear sir, very respectfully,
your obedient servant,

JONATHAN ALLEN.

Berkshire, ss., Pittsfield, Sept. 29, 1831.—Then the above named Jonathan Allen personally appeared, and made oath that the foregoing statement by him subscribed, is, according to his best belief and judgment, true.

JOSHUA DANFORTH, Justice of the Peace.

(From the British Farmer's Magazine.)

ON THE PROPRIETY OF KEEPING LAND IN PERFECT PASTURE, OR, WHAT IS TERMED OLD TURF.

BY WILLIAM AITON, ESQ.

Sir,—It must be well known to you, and to many of the intelligent readers of your valuable periodical, that particular branches of husbandry have long been carried on to much greater advantage, and have attained to greater perfection in particular districts, than ever they have been brought to in others. Where this proceeds from local advantages, in soil, climate, or situation, it would be in vain to attempt to carry such branches of improvement beyond the bounds that nature has set to such a species of industry. No human effort could produce coal, iron, lime, or other minerals, where nature has not placed them. It would be equally improper to attempt to raise grain crops on our mountains, or to turn much of our best arable land into sheep walks, nor can we ever expect to raise hay from the sides and skirts of steep hills. Human skill and industry have done much, and, if well directed, may yet do wonders in the improvement of many branches of husbandry; but, to render them successful, nature must be studied, and followed in nearly her own course, but by no means be forced, or too much controlled. Nature may be assisted, but will not submit to be driven much out of her own way.

But there are various branches of rural industry that have been brought to considerable perfection in particular districts, where no local advantages could be traced, but merely from greater attention having been paid to such branches, by the inhabitants of that part of the country; and which, by similar attention, might have been, or could yet be carried on, with equal success in other parts of either Scotland or England. Hops might be raised in others of the southern counties of England, as well as in Kent.—The dairy, which is still limited to particular districts, might be carried on in any part of the island, where abundance of grass and fodder can be raised to supply cattle of a medium weight. And the feeding of calves to the best advantage, might be carried on wherever milk can be procured, as well as it is in three or four parishes in Lanarkshire, of which Strathaven is the centre, and where it is now carried on to greater perfection than in any other part of Britain or Ireland. These all proceed from local industry in these particular branches of husbandry, and might be greatly extended, if due pains were taken to make known their advantages, and how to carry them into practice.

There are various branches of industry that are practised only in particular districts, merely from their having been once introduced there, and the people having of course become partial to them from example and habit, whilst those in other parts of the country, where they are little known, have become indifferent about them, or prejudiced against such improvements. The extension of the knowledge and practice of such improvements, might tend to the advantage of agriculture. It is, therefore, the duty of those who write, or who can write with any degree of propriety, to point out every improvement that is still of local operation, and yet seems capable of being extended to other districts with advantage; as well as to point out such practices as seem to be adhered to in particular districts, either from habit or from prejudice.

It may sometimes happen that a diversity of opinion may prevail as to particular operations or modes of industry; but even in such cases, inquiry and free discussion may be profitable, and seem the best way for farmers making up their minds on such points.—Your Magazine seems one of the most important channels of information now open for the diffusion of agricultural knowledge, and I therefore avail myself of your indulgence to make known my ideas on the subject of Permanent Pasture, or Old Turf.

There are few things in which the husbandry of England and Scotland differ so much as in their modes of management of pasture land. In England extensive fields of land, of the driest and richest quality, are turned into pasture, not merely for a few years, and in rotation with grain crops, as in Scotland, but for a series of years, sometimes for ages, without ever being broken up or cropped. This, in England, is termed permanent pasture, ox pasture, old turf, &c. And many of those who have written on agriculture in England, have represented this species of pasture as of the utmost importance in husbandry; and of course, many proprietors and farmers have adopted that opinion. They say that the longer such land is kept in pasture, without being broken up, it becomes so much richer; and that to allow any part of it to be ploughed and cropped, would hurt the community as well as the proprietor of the land. Mr. Goring, of Weston, says, in a communication to the Board of Agriculture, vol. iii. p. 198, "The virtue which is inherent in old pasture has been accumulating for ages, and has in it the nature of principal, rather than interest. The owner who suffers it to be violated, is breaking in upon his capital; every year lessens it something, till, by the end of the lease, it is wholly absorbed. Therefore, he should have for such permission, not an annual rent, but a valuable consideration." Proprietors are, therefore, at great pains to exact the most rigid stipulations with tenants, to prevent, under high penalties, any part of such old turfs from being broken up and cropped. Many other writers of considerable intelligence, on both sides of the Tweed, but chiefly in England, have concurred in opinion with Mr. Goring, as to the utility of a portion of old turf in every farm, and many farmers consider it a very important improvement, and argue for the practice, as I shall notice in course.

The general opinion in Scotland, however, is unfavorable to the practice of permanent pasture; and, except it be a few instances in the county of Berwick, there is scarcely such a thing as old turf to be met with in Scotland. In that case it may be of advantage to both kingdoms, to inquire into the advantages and the disadvantages of permanent pasture. For if it is so valuable as some represent it to be, it ought to be introduced into Scotland as well as England; and if it is only one of the errors in farming that has not been yet detected, and the prejudice in its favor has hitherto been too strong, it would be desirable that the English proprietors and farmers could be convinced of their mistake, and abandon the practice. I cannot perceive any local occurrence that can render permanent pasture profitable in one kingdom, and the reverse in the other.

The only permanent pasture in Scotland is the moor and hill pastures, that are either too elevated, too steep, or the soil too sterile, to be cultivated and cropped to advantage; or, that if capable of advantageous improvement, are still neglected, and formed into sheep walks, or for rearing inferior cattle. The only arable land that is turned into any thing like permanent pasture in Scotland, is that formed into lawns, or pleasure ground, around or near to the castles or manor places of the noblemen, or proprietors of land, that can afford to live in good style, and who have a taste for ornamental gardening, or well-dressed lawns. But the land so formed, though it may remain many years in pasture, is not laid down to that state, or kept in it, as a profitable mode of farming, but merely for ornament.

Nothing but land of the very best quality can be kept in pasture for any length of time, without becoming worse in the quality of the pasture every year. When land of inferior quality is manured, reduced to form, and turned into pasture, the herbage, though good at first, will begin to grow worse after the fifth or sixth year, and in a few years more the rich herbage will disappear, and the bent grasses (*Agrostis*), yellow fogs or moss (*Hypnum*), the sedge grasses (*Carex*'s), and even the white bent (*Nardus stricta*),

will start up, and increase; so that by the ninth or tenth year, the pasture, instead of being improved, and growing richer by age, will not be of the one-half of the value that it was during the three or four first years; and the longer the ground remains in pasture, it will grow the worse till it return to waste land.

If a piece of clay soil is turned into pasture, however well it may have been prepared by fallowing and manure, it will in a few years run together so closely, and the tilly subsoil will rise so near to the surface, that the moisture cannot percolate through the soil, but remains in it, and forms the soil into mortar in winter; and the drought of summer forms it into clod, or something like brick ready to be burnt. As these changes advance, not only the artificial grasses, but the poa grasses, and all rich herbage, first grow stuntedly, and afterwards disappear, and the *Festuca*, and bent grasses increase on the higher parts of the ridges, and the *Carx paucica* towards the furrows. So that after the lapse of six or seven years, such pasture becomes every year of smaller value, and sinks into waste land. Clay land, and that which is of a light dry bottom, but of a medium or inferior quality, equally return to sterility in a few years after being laid down to pasture, with only some difference as to the herbage that starts up, and supplants the grasses that had been sown. In a clay soil, the sedge grasses and damp fogs, or mosses, gain the ascendancy, while in land of a dryer bottom, the bent grasses and dry hypna, banish the richer herbage, so that old pasture in either case, is, after ten years or so, nothing else but waste land.

The only land in Scotland, or I may say, any where else, that is capable of being kept in permanent pasture for more than eight or ten years without being broken up, is that where the soil is of the best construction, rather of a dry than a wet description, and incumbent on a permeable subsoil. Land of that composition and quality, when well formed on the surface, and enriched with manure, may, if turned into pasture, continue without much deterioration as to the quality of the herbage, for a good number of years. And if it gets a top dressing of dung, lime, compost, &c. every three or four years, and be run over with a grass harrow to destroy the logs or mosses, the pasture may remain good, or not much deteriorated, for a great many years.

But still the question comes to be, is that the best and most profitable use to which such a piece of ground can be converted? Or may it not be made to turn to better account by some other mode of treatment? On this subject I am decidedly of opinion, that when a piece of good land has remained in pasture for six or eight years, it must have enriched itself so much, by the accumulation of a large portion of vegetable matter on the sward, as to be in excellent condition to yield two or three crops of good grain, of almost double value, besides seed and tillage, to the grass it yields or can yield; and that such land may, if rightly managed, be returned to pasture again no way deteriorated, but improved. Fortunately this is not an opinion merely, but a thing that I have seen, and that thousands and tens of thousands can attest to be correct.

It has long been a common practice in Scotland, to keep the dressed land round the seats of noblemen or gentlemen in pasture, for eight, ten or twelve years, and when the mosses begin to smother the grasses, instead of harrowing and manuring the land—already too rich—it is usual to take two, or sometimes three or four crops; say, one of oats, a green crop of one kind or other, and oats or wheat for the third crop, hay next year, and then pasture. Some have taken two crops of oats, a green crop, and then another white crop, followed with hay. I need not be told, that land so enriched by rest, is in fine condition to be put under a course of rotation cropping, to greater advantage, than by merely snatching three or four crops, and then throwing the land into pasture. But land around a nobleman's seat is wished to be kept generally in pasture, and these crops are resorted to for

the double purpose of drawing a temporary profit, and to renew and invigorate the pasture.

Nothing is better ascertained, or more certain, than that any piece of fair lying land, that would bring a rent of £1. 10s. per acre, in grass, for twenty or thirty years, would, if let for the same period, with liberty to follow any ordinary and liberal rotation, give from £2. 5s. to £2. 10s. per acre. Land that would bring £2 per acre in old turf, would rent at £3 or more, for an ordinary course of husbandry, and so on in proportion. And it is equally certain, that when land worth £2 or so in old pasture, has been depastured for eight or ten years, and gets a very moderate top dressing of hot lime, or a small quantity of dung the second or third crop, a rent of from £8 to £10 per annum, perhaps still more, may be realised for four years, and the pasture as good afterwards as before.

To enumerate the instances I have seen of such returns from land of that description, that yielded for two, three, or four years, from three to four times (or more) the rent, for a course of cropping, that it gave in old turf, would more than fill up your whole number. An inclosure of land at Garrison on the Clyde, the property of Lord Bellhaven, which, in pasture of ten or twelve years old, did not bring more than £3 of rent per acre, was, a few years ago, let out for two years' cropping with oats, at £15 per acre, per annum. Land near Eglinton Castle, Ayrshire, and some at Cunningham-head, in that neighborhood, was, after being kept in grass for a good many years, let out for three successive crops of oats, (not the most approved course certainly) at the rent of nearly £18 per acre, yearly, on an average. Lands in the county of Dumbar, where the soil is generally thin, have, when let in similar circumstances, brought a rent of £16 per acre, for three successive crops. Many such instances have fallen under my observation.

A field of land at Barneleith, near Hamilton, the property of the Pencaith family, which brought in old turf only £3 or less of rent yearly, was, after being top-dressed with lime four years ago, let to be cropped with oats the first year, potatoes without dung the second year, barley the third, and rye-grass in hay the fourth year, and yielded a rent of £8 per acre for these four years; and the pasture was as good this, the fifth year, as before being broken up. Another field adjoining to this, has from some singularity in the title, been obliged to be kept in pasture for some centuries past, and though it is as good land as the other, it would not rent in old turf at more than £2. 5s. per acre. But if a moderate dressing of hot lime was applied to this field, it would, without any other manure, give a rent of £8 per annum for four years, and the pasture would be of double value from what it is now, for ten years to come. And by that time, this field would be ready to yield three or four more crops, at three or four times the rent of the pasture, and six times that of the present pasture.

But, without occupying too much of your valuable room, with details that are almost endless, allow me to direct you and your readers, to the detailed account given in the eighth chapter of the general report for Scotland, of the rent obtained by the Duke of Hamilton, for some rich haugh land on the Clyde, at Hamilton, both when in old turf in tillage, for four or five years, and afterwards in renewed pasture, with the remarks of his Grace's intelligent farmer, Mr. Wilson, and of which the following is an abstract.

Forty acres of haugh land, near to Hamilton Palace, which has been pastured with sheep, for many years, and brought £2. 5s. of rent per acre per annum, was let for three years' cropping at £12. 12s. per acre, yearly; the second crop to be hoed. It was let next year for a fourth crop at £8 per acre; and the fifth year it was again let for a fifth crop, at £7 per acre, the tenant being bound to give the ground a spring fallow. Eighty-three acres more of that beautiful haugh, that had been a great number of years pastured with sheep, at a rent of £2. 5s. per acre, was let for three crops, as the other, at a rent of £9

per acre; and it gave £7 per acre, for a fourth crop. This part of the haugh was the following year spring fallowed, a part of it trenched and levelled by the proprietor, and the crop of oats sold at from £14 to £15 per acre. Both fields were sown with grass seeds, and yielded two hundred and fifty stones, county weight, (24 tons,) of good hay, for the sixth crop, from every acre on an average. And so far from the pasture being worse than formerly, part of it was let at £4. 10s. per acre; and Mr. Wilson attested that the whole 123 acres, was worth, after that course of six years' cropping, without manure, £4. 10s. per Scots acre.

Another part of that haugh, extending to 105 acres, which had been a great number of years in uninterrupted pasture, at a rent of £3. 4s. immediately before being broken up, was let out in small lots, for three years' cropping, and brought an average rent of £10 per acre. The same land was let at £7. 10s. per acre for a fourth crop; and again at £5 for a fifth crop; the tenant being bound to spring fallow the ground, before sowing. The first crop of grass after these scourge crops, brought £6; and afterwards £4. 10s. per acre, in pasture.

Another division of that fine holm, extending to 45 acres, which in old pasture had given £4 per acre, brought £12. 12s. per acre, for three crops; gave £7 per acre for a fourth crop, the tenant giving it a spring fallow. And so far from the ground being injured by this severe course, it yielded an abundant crop of hay the fifth year, and it brought £5 of rent per acre the sixth year in pasture.

Mr. Wilson had the goodness to favor me with a comparative statement of the rent obtained for the old turf, and that for grain crops, and hay for six years, and the balance of the latter over the former he stated at £9903. 4s. of additional rent, or clear profit to the noble proprietor. But this is not all, for whatever might be the profit or losses of some of the tenants, employment was given by them to a great number of laborers, during great part of six years, and an immense quantity of grain raised for the food of man.—Part of the crops were sold uncut at upwards of £18 per Scots acre; which was of much greater value to the public than 120 pounds of beef or mutton per annum from an acre.

Many similar instances of profit, by breaking up and cropping old pasture land, might be given; but I prefer mentioning the above, because I carefully collected them for that chapter of the general report, and know them to be correct, as well as the account of them having obtained a currency, by having appeared in that standard work, and never been contradicted, or the doctrine they were intended to prove been since controverted in Scotland. And if these indisputable instances of profit do not convince all who read them without prejudice, or who make a fair trial of the breaking up and cropping of old turf, such people would not be convinced, though one rising from the grave were to preach up the doctrine.

I am aware, that taking three or four successive crops of oats is far from being good husbandry; and that it Hamilton Haugh or any such a range of land, had been let on a reasonable lease, for a course of rotation cropping, it would have brought a higher rent, in the course of the lease, and yielded still more profit to the occupier, and more food to the public. But as these lands form the pleasure grounds round his Grace's palace, he naturally wishes to have them mostly in pasture, and could not be expected to place farm-houses so near his residence. But when the quality of the pasture begins to fail, as it does every where in old turf, his Grace does not throw away money in harrowing up the moss fogs, or in applying top dressings of lime or dung to land already too rich; but he takes a few crops of grain, which yield him triple, or quadruple rent, sends a vast increase of human food to market, and gives employment to a great number of laboring people.

I shall advert, very shortly, to some of the argu-

ments that have been advanced by the advocates for permanent pasture or old turf. They aver, that old pasture feeds and fattens cattle of much greater weight than can be fattened on new pasture. I am rather inclined to dispute that opinion, for this reason, that new pasture rises two or three weeks earlier than that which is old; and, of course, gives a start in the beginning of summer to cattle, that they may maintain through the season. But if it were otherwise, I never could discover the superior advantage of large cattle, over those of a moderate size. On the contrary, I am of opinion, that very large cows, horses, or sheep, are far from being so profitable as those that are of medium bulk; and therefore, the old pasture being put to that use, is, in my opinion, an argument against, and not in favor, of that species of pasture. If the averment be correct, the remedy is easy—instead of very large cattle, lay on those that are of moderate size. If it should be thought that old pasture brings cattle to a greater degree of fatness than they can attain on new pasture, I would say, the far too great anxiety which has long been shown to feed oxen, sheep, and swine, beyond a profitable and reasonable pitch, ought not to be encouraged, but prevented. Beef, mutton, &c. fattened to a moderate degree, are far more profitable, palatable, and wholesome, than those which are fattened too much. After any animal has attained a proper degree of fatness, it is a great waste of food to fatten the beast to a high pitch. If a cow of 20 stones weight when lean, can be fattened to 30 stones on ordinary food, but the owner wishes to add two or three stones more in fat, these three stones will cost him nearly as much as the other ten stones had cost. I may not be exactly right in the proportions, but I am confident I am correct on the general principle, that over fattening is far from being so profitable, as feeding to a moderate pitch. No person will say that over-fatted meat is palatable; for even the most gluttonous often reject an over portion of fat, and much of it is melted and lost in cooking. Much fat is far from being wholesome to the consumer; and there is greater degree of danger of an animal that is too fat, being infected with the seeds of disease, that may be communicated to the consumer of its flesh, than there is of cattle moderately fattened.

They argue, that where the Leicesters or other fine breeds of sheep are kept, some pasture of great age becomes necessary. I am of opinion, however, that any breed of sheep in Britain, may be fattened to the utmost degree that can be necessary, on any ordinary pasture. But if it were otherwise, it would only convince me, that rearing such a breed of sheep ought to be discouraged, as unnatural and unprofitable. If one breed yield a greater return than another, we ought not to despise them for fanciful breeds to which high names may happen to be attached.

I am satisfied that old pasture, and even that which is wild and in a state of waste, gives butter of a finer relish than can be had when the cows are fed either on new pasture, or on artificial herbage, as clover, turnips, cabbages, &c. But no sound politician would wish to see land reduced to waste, or to any unprofitable state, merely to enjoy the luxuriance of butter slightly richer, or more palatable than common. Man does not live by butter alone, or by Leicestershire sheep, or cattle of an enormous size; and ought not to sacrifice too much for any or all of them.

I also admit, that a greater variety of herbage appears on old than on new pasture, but I doubt much if that is an advantage. In the course of a few years, the artificial grasses begin to be supplanted by the natural herbage of the soil, whatever that may be. This is not a benefit, however, but the reverse. The ryegrass will yield to the *Festuca*, and the clover give place to the bent grasses or *Agrostis*. The clover will wear out, and the fogs or mosses (*Hypnum*) will start up; but all these are changes for the worse, and not improvements. If the soil is clay, three-fourth parts of the herbage towards the furrows will be sedge

grasses, chiefly the *Carca panicca*, which is one of the poorest of grasses. In the piece of old turf at Barnicleth, formerly mentioned, I find many of the mountain plants, as the *Poa alpina*, *Festuca ovina*, *Festuca rubra*, *Nardus stricta*, &c.; but these, and many others of the natural grasses, are far from improving the pasture.

As I disapprove entirely of permanent pasture, it would be wrong to enter on the consideration of how it can be best managed. Some argue for harrowing up the fogs, or moss plants, and throwing on a top dressing of lime, compost, or well made dung. But it appears to me, to be a strange fancy, to apply any species of manure whatever, to land that has already become too rich, by the accumulation of vegetable matter from long rest. When once land of good staple has rested six or eight years, it is fit to yield two or three crops of grain, without receiving any manure whatever. Or if a crop of oats is taken the first year; a green crop the second; the third crop may be oats, and the ground turned into hay, and then pasture, all without the application of any species of manure; and the pasture no way deteriorated, but improved. In this way, a piece of old turf may be made to produce a considerable quantity of dung for other land, beside tripling the rent for four years; instead of robbing the other land of its dung, to support the whim of permanent pasture. If a piece of old turf is to be broken up, and again returned to pasture for ornament, near a seat of some gentleman, a slight dressing of lime on the sward, might enable the occupier to take two or even three successive crops of oats, and if a green crop is next taken, or a naked fallow, if the ground is foul, a crop of oats or wheat, with a moderate portion of dung, might be a productive crop, and the ground returned to pasture after hay to great advantage. And during all these years, with the exception of that in fallow, more than three times the rent of the old turf might be realised, and the public much benefited by breaking up the turf.

Some have recommended to pare and burn old turf, then to give it manure before being cropped; which is the most absurd thing I ever heard proposed in agriculture. Every farmer knows, that when land is depastured for a few years, (say, six or eight years,) a considerable portion of vegetable matter accumulates on the surface of the ground; and that such vegetable matter is well calculated to enrich the soil, and render it productive of grain crops. To pare that off and burn it, on pretence of destroying the ova of flies, the germ of animalcule or seeds of weeds, is about as absurd as it would be to burn the farm-houses and stacks, to get quit of mice and rats; and to lay on dung as a top dressing, is also bad husbandry, as the sun exhales its enriching qualities, and the wind carries them away. A piece of old turf, instead of being enriched with dung from the other parts of the farm, may, if properly managed, yield much dung to the other land; much grain to the market; much employment to laboring people; a great profit to the occupier, and an increased rent to the proprietor. And whoever keeps a single acre of land in permanent pasture, whether it proceeds from ignorance or prejudice—from a wish to have larger and fatter cattle, or butter of superior quality—that person does a great injury to the proprietor, the occupier, and the public. Old turf is one of the greatest errors or whimsies that has ever been recognised in modern husbandry. WILL. ARTHUR.

Hamilton, 31st Dec. 1831.

(From the Genesee Farmer.)

THE ADVANTAGES OF FALLOW-CROPS OVER SUMMER-FALLOWS.

BY JAMES SPERRY, OF MONROE.

TO JESSE BREL, ESQ.

Dear Sir,—In answer to your circular, I would observe, that I should not have presumed to furnish matter for a volume of the Memoirs of the Board, had it not been asserted, that "any facts, however simple, would be considered valuable."

I have carefully watched the progress of improvement in agriculture, in order to derive benefit from any system of cultivation, new and useful, which might be proposed. Although many improvements in the business of husbandry have been suggested, which would no doubt be of advantage to the farming interest, were they reduced to practice, yet I shall speak of but one, which I consider the most prominent, and that deserving the greatest attention; and which, if generally introduced, would save to the farmers of this state, annually, many millions. I mean the introduction of fallow-crops, and the abandonment of summer-fallows altogether, on green sward. The experience I have had in the system, confirms my belief, that all spring crops, such as oats, peas, barley, and potatoes, may be raised on green sward, well ploughed, either in the fall or spring, and rolled with a heavy roller, with less expense in labor, and double the net profits, than on stubble land; that the expense of tending a corn crop, on ground of this description, and thus managed, would be less than the expense of summer fallowing, and that good or poor land would not be exhausted as much in growing most of the above crops, with the sod under, unmolested and unexpended while rotting, as it would be in receiving two or three ploughings, while in a partial state of decomposition, in the heat of summer, exposed to the influence of the sun, rains and winds. The first experiment I made of this kind, was a crop of corn, on a stiff sward of spear grass, ploughed in the fall, and well harrowed in the spring, without rolling. My crop was 72 bushels to the acre, worth 50 cents per bushel—Net profits, \$23.30 per acre.—The ground was well ploughed once next spring, and sowed to peas; crop, 32 bushels per acre, worth \$1.00 per bushel—Net profits, \$25.10. The peas were harvested early in September, and the ground well ploughed once, and sowed to wheat; crop, 31 bushels to the acre—Net profits, \$22.90 to the acre. Net profits in three years, \$71.30. I have this year raised corn on land adjoining, and of a similar soil and sod, (the soil is what farmers call a sandy loam,) managed in the same way, save only the crop was but once hoed; (wet weather prevented;) crop, 100 bushels to the acre. No manure was used; and not so much labor in tending, as stubble land would have required. In the same field, I sowed 60 rods of ground to flax, and harrowed it well on the sod. The crop grew well, and was the best I have ever raised on any ground. It fell down, and I pulled it while in blossom; after which I ploughed the ground once, and sowed turnips. The turnips are very fine, and promise a good crop.

Henrietta, Monroe Co. Oct. 18, 1834.

HORTICULTURE.

(From the New England Farmer.)

Soap suds is one of the best antiseptics against insects, as well as a very good manure. Trees, shrubs, garden vegetables, &c. if showered with this liquid once or twice a week, would not be injured by worms and bugs, and would flourish surprisingly. Watering plants, such as potatoes, turnips, and even flax, with sea-water, has been recommended with Dr. Deane; but he says, "salt water applied to tender plants, most commonly proves too strong for them, if applied when the ground is dry; but if it be wet, the strength of the water is abated by mixing with the juices in the soil, before it is taken up by the roots, and thus it is rendered innocent and safe, as I have found by experience." Do not forget to place a handful of ashes or plaster, or mixture of both, on your hills of corn and potatoes, just before the first or second hoeing. These substances are usually applied after hoeing, but it has been thought better to cover them with earth, lest the sun and air steal away their fertilizing qualities. Soap suds is the best of manures for cucumbers, melons, &c.

(From Buck's Beauties of Nature.)

VEGETABLE INSTINCT.

Instinct is a particular disposition or tendency invariably being to embrace, without deliberation or reflection, the means of self preservation, and to perform, on particular occasions, such other actions as are required by its economy, without having any perception of what end or purposes it acts, or any idea of the utility and advantage of its own operation. Climbing plants afford a curious instance of this instinctive economy. Some of these having very slender stems, cannot, like most other plants, grow of themselves in a perpendicular direction; but in order to compensate for this incapacity, nature has given them the power of moving or twining their branches and tendrils different ways, until they generally meet with a tree or some other body on which to climb, or attach themselves; and when a tendril has laid hold of a support, it coils up and draws the stem after it.*

Trees and other vegetables have likewise the power of directing their roots for procuring nourishment;—for instance, a tree growing near a ditch, will be found to direct its roots straight downwards, on the side next the ditch, until they reach the ground below it, when they will throw off fibres underneath, and ramify like the root on the other side of the tree. Some curious examples of this kind of instinct are related by Lord Kaines, among which is the following. "A quantity of fine compost for flowers happened to be laid at the foot of a full grown elm, where it lay neglected three or four years; when moved, in order to be carried off, a net work of elm fibres spread through the whole heap; and no fibres had before appeared at the surface of the ground."

Many flowers also fold up their leaves on the approach of rain, or in cold cloudy weather, and unfold them again when cheered by the reanimating influence of the sun. This is remarkably exemplified in the *convolvulus arvensis*, *anagallis arvensis*, and many others, but more particularly in the last, whence it has been called the poor man's weather-glass.

In Watson's Chemical Essays also, it is stated that trefoil, wood-sorrel, mountain ebony, the African marigold, and many others, are so regular in folding up their leaves before rainy weather, that these notions have been considered as a kind of instinct similar to that of ants.—*Topper on the Probability of Sensation in Vegetables.*

Some plants open their petals to receive rain, others avoid it; some contract at the approach of a storm, others on the approach of night; while some expand and blossom only to the evening air.

Near the Cape, certain flowers form a species of chronometer. The *morea undiculata* and *undulata* open at nine in the morning, and close at four; the *ixis chinamonae* opens at the time the other closes, and sheds a delicious perfume throughout the night.

The stamina of the flowers of sorrel thorn are so peculiarly irritable, that when touched, they will incline almost two inches; and the upper joint of the leaf of the *dianea* is formed like a machine to catch food. When an insect therefore settles on its glands, the tender parts become irritated, and the two lobes rise up, grasp the insect, and crush it to death. The *plane-tree* exhibits the power of exercising a sagacity for securing food not unworthy of an animal. Lord Kaines relates, that among the ruins of New Abbey, in the county of Galloway there grew in his time, on the top of one of its walls, a plane-tree, upwards of twenty feet in height. Thus situated, it became straitened for food and moisture, and therefore gradually directed its roots down the side of the wall, till they reached the ground at the distance of ten feet.

* A mistake. The tendril does not "draw the stem after it"—it merely supports it. The stem increases in length only from the growth at the end. The limb of a tree and the tendril of a vine are always at the same distance from the ground.—*Ed. Am. Farmer.*

When they had succeeded in this attempt, the upper roots no longer shot out fibres, but united in one; and shoots vigorously sprung up from the root which had succeeded in reaching the earth.

The island of St. Lucia presents a still more curious phenomenon in the animal flower. This organization lives in a large basin, the water of which is brackish. It is more brilliant than the marigold, which it resembles. But when the hand is extended towards it, it recoils, and retires like a snail in the water. It is supposed to live on the spawn of fish.

In Java, grows a plant, the *Nepenthes distillatoria*, remarkable for having a small vegetable bag attached to the base of its leaves. This bag is covered with a lid which moves on a strong fibre, answering the purpose of a hinge. When dews, rise, or rains descend, this lid opens; when the bag is saturated, the lid falls and closes so tightly, that no evaporation can take place. The moisture thus imbibed cherishes the seed, and is gradually absorbed into the body of the plant.

TREE MIGNONETTE.

At the Bury Horticultural Society's show on the 1st of May, a plant of tree mignonette was exhibited and greatly admired. Perhaps our readers generally are not aware that they, with a little attention, may soon possess themselves of a similar shrub, simply by training a plant of mignonette up a stick, and cutting off all the lower leaves and shoots, and never allow the plant to ripen its seeds.—*English paper.*

RURAL ECONOMY.

(From the British Farmer's Magazine.)

ON FEEDING CALVES FOR VEAL.

BY WILLIAM AITON, ESQ.

Hamilton, 31st Dec. 1831.

Sir,—Believing, as I do, that the flesh of newly dropped calves, is neither pleasant to eat, nor wholesome food, and knowing that milk cannot be so profitably disposed of by farmers in any other way as by feeding young calves, until their flesh becomes palatable or nutritious, I take the present opportunity of mentioning an instance of a calf being fed to an uncommon weight and degree of fatness; and, as connected with the subject, to point out how calves ought to be fed and treated in order to be profitably formed into the richest and best of veal.

A calf of the Ayrshire dairy breed, reared and fed by J. Struthers, in Earnockmoor, near Hamilton, till it was five months old, was recently killed by Mr. Hamilton, flesher, there, that when alive weighed 4 cwt. 3 qrs. and 24 stone, of Lanarkshire iron weight, 224 oz. per lb., and 16 lbs. to the stone.—And when cut up, this calf weighed 77 lbs. imperial in each of its four quarters, or 308 lbs. of saleable veal in the whole carcase. Its tallow weighed 763 lbs. imperial; the head 24 lb., feet 8 lb., pluck 144 lb. and the skin 28 lb. imperial. The price paid by the butcher for this calf, and one about two-third parts of its weight, was twenty guineas.

This calf was reared and fattened on milk alone; and as the owner was rearing other calves at the time, this one, like the rest, was fed for several weeks at first, on the forebuds, or first-drawn milk, in order to raise the calf to a proper size, and render its appetite keen. But when the calf advanced in age and weight, richer milk was given; and for several weeks before it was killed, it was fed on what, in districtal language, is termed "afterings," or milk that is last drawn at every milking of the cows; and it got this, the richest milk, of three or four cows. Such is the way that calves are fed in the Strathaven district, Lanarkshire, to a degree of weight and fatness that has not been equalled in any other part of Britain.—And as the mode of feeding calves in that district is

simple and easy, as it is the most profitable way that milk can be disposed of, and as the same mode of mode of making rich veal might be pursued to equal advantage in any other part of Scotland or England, where proper food for dairy cows can be raised, I am anxious to make known every thing respecting dairy husbandry, and especially the best method of feeding calves, which is of general interest. And my object is to promote the interest of those who keep that species of stock, as well as of those who eat veal.

No species of animal food in general use can be more disgusting to the consumer, or less wholesome or nutritious, than the flesh of a calf, that has been killed when only one or two days old. And as no other article produced on a farm is more capable of being profitably converted into wholesome food, that is both agreeable and substantial, the killing of young calves, when their flesh is mere blubber, is one of the greatest errors committed in dairy husbandry. Every owner of a young calf must have the milk of the mother of that calf, and that milk cannot be more profitably disposed of any other way by farmers, than by feeding calves. It is well known, that when fresh butter was in its greatest demand, and at a high price, ordinary new milk was estimated by farmers at fourpence per Scots pint, to be made into butter and sour milk. And I have known farmers, who had too few cows to enable them to send their milk to market at nine or ten miles distance, sell their milk as taken from the cows, at fourpence cash, Scots pint, and that milk churned and carried to market by the purchaser, along with that of his own cows.* And every dairy farmer knows that milk pays better, when applied to the feeding of calves that are sound and healthy, than when made into either butter and sour milk, or into cheese. In proof of this, I have seen intelligent keepers of milk cows, in Strathaven, apply the milk of their cows to the feeding of calves, when they could have sold it at their cow-house door at fivepence per pint, or upwards. If so, it must be bad management to manufacture their milk into cheese, when it requires from 55 to 60 Scots pints of milk to form a stone of cheese, county weight, of 224 oz. per lb., and 16 lbs. 16 oz. to the stone, and which brings only nine shillings per stone. It has always been estimated by intelligent farmers, that milk properly used in feeding calves for veal, would bring a return of at least fourpence per Scots pint; and although butcher meat has fallen in price, it is evident that when made into cheese, milk brings at present scarcely twopence per pint. Yet the farmers' wives are unwilling to break their milk, as they say, by applying any part of it to any other purpose except making cheese.

To feed many calves in summer, would be dividing the milk too much; and to feed them at any time to the pitch of fatness of the calf before described, is not the most profitable mode of feeding. But for the owner of a calf to kill it when one or two days old, and when he has milk at command which he cannot dispose of to better advantage than by feeding the calf till it is three or four weeks old, is bad husbandry. No calves should be killed, nor their flesh eaten, unless they have been fed at least two weeks. And I say, with confidence, that milk so applied for that period, or even for four or five weeks, will bring a greater return than when it is made into cheese.

Having thus pointed out the advantages of feeding calves for veal, at any rate till their flesh is rendered wholesome and palatable food, a few directions as to the mode of feeding, may be useful to such as do not understand that branch of dairy husbandry. And such directions can do no harm to those who already know how that branch should be conducted.

The calves to be fattened, ought to be fed on cows' milk, without any mixture or other food whatever.—It is proper to give the youngest calves the milk that is first drawn from the cow, at every milking, or if that is not done, the calves should be fed sparingly at first, till they increase in size and attain a keen appe-

tite, after which they may be more plentifully supplied, and get more of the richest milk, called "afterings," in dairy language, and that in as great quantity as they can drink; but taking care never to overload their stomachs, so as to create surfeit. If that happens, abstinence or feeding very sparingly for two days or so, on gruel with little milk, is the proper remedy. If the calves become constive, a small quantity of the juice of boiled mutton will give relief, and if they begin to purge, a table spoonful of the rennet that is used in coagulating milk, is the best remedy. A lump of chalk placed near to the calf that it may lick it, serves to correct the stomach of the young animal, and makes it secrete and swallow a larger portion of saliva. If nothing better is provided, the dairy-maid puts one of her fingers into the calf's mouth, to serve as an artificial teat. The milk is given them twice in twenty-four hours, always warm, as it comes from the cow; and they are never allowed to suckle the cows, but taught to drink from a dish, and the slower they can be made to swallow their milk, they take in the larger portion of saliva, so very necessary to promote digestion.

Calves fed in Lanarkshire are never bled, nor get any drugs or physic, nor any other food, except milk. Some have recommended bleeding to make their flesh and lights of a white color, but it is only when the calf is surfeited, that its flesh becomes too dark, and when that happens, the best remedy is to withdraw the milk, and feed the calf on gruel for two or three days before it is killed.

Calves should be kept in a dry, well ventilated situation, with plenty of dry clean straw under them, and frequently renewed. They should be kept in a dark place, as when they have much light, they become sportive and take too much exercise.

Many instances could be given, of calves being fed, near Strathavea, to a greater weight and giving a higher price than that before mentioned: but all these have been fed more for ostentation than for profit. A calf may be fed profitably for six or eight weeks, but after that age, the profit is not so great, and it is still smaller after the calf is three months old. That previously mentioned, was the fattest that had ever been seen in this part of the country.

(From the New England Farmer.)

FEEDING CATTLE, &c.

The following, from an experienced cultivator in the state of Maine, we have been permitted to copy from a communication sent to Hon. JOHN WELLES, of Boston.

I have proved the value of parsnips as a substitute for my usual green food. The experiment was made on a cow, exhibited as a *fat cow*, about eight years since, at Brighton. It was not long before she was turned into pasture. On carrots and turnips she gave twelve pounds of butter per week. While fed on turnips she gave thirteen and a half pounds per week. They were better than Indian meal.

You recollect two heifers I sent to the Denton ball. I have one now left, and from the produce of her second calf, which was killed at four years old and weighed nine hundred pounds, I have a cow with her third calf. The cow gives two pails full of milk per day, of which the calf takes a little more than half, and is very large and well shaped.

The cow exhibited at Brighton met with an accident, and at five and a half months lost her calf, and was afterwards unfit for breeding. In the five and a half months she gave,

Of butter,	- - -	2024 lbs.
Of cheese,	- - -	38 lbs.
Milk for the calf,	- - -	482 quarts.

In the first fifty days she gave fifty pounds of butter, and on an average rather more than nine quarts per day of milk to the calf.

From the same heifer, which I sent to Northborough, a calf was raised last year by Mr. Howard, which at seven weeks old he sold for twenty five dollars. An accident happened to it at five months, and when dressed it weighed three hundred and seventy-five pounds.

TRAINING OXEN.

MR. SMITH:

A strong cord or chain should be fastened around their horns, with as much moderation as possible, to prevent alarm; they are then to be taken separately to the side of a house or some convenient place, and made fast. A house is preferable; if tied to a post they will wind around, perhaps receive some injury. There they are to be fed regularly by the driver, until they will permit him to handle them in any way he pleases; if they are obstinate they should be fed very sparingly, for it is well known that hunger will subdue the most obstinate spirit; they are then to be brought together and the yoke put on, and put to the cart between two other yokes of well broke oxen; when treated in this way they will move off with their heads up as if they had been always accustomed to the yoke. I have pursued this method for the last ten years with complete success. A. C.

MISCELLANEOUS.

(From the Genesee Farmer.)

BREAD.

Most people are fond of bread mixed with milk, but many inhabitants of villages and cities are not able to procure it, not keeping cows, and the cost of milk by the quart being often too expensive to allow them the use of it. The following cheap substitute for milk, renders the bread such a perfect imitation, both in taste and tenderness, to the milk-mixed, that the nicest connoisseur would not detect the difference. The secret is simply this: To good emptyings or yeast, and sufficient warm water to mix a batch of six or eight common sized loaves, add as much sweet hog's lard as a table spoon will lift, or say three or four ounces, which must be intimately mixed, and well baked. The extra cost is not more than two cents; the bread keeps longer, is sweeter, without crust, and to our palate superior, when a little stale, to any kind we have ever eaten.

(From the Maryland Republican.)

MR. HUGHES:—Having been so frequently applied to for the following receipt, until it has become troublesome to give copies of it, I request you to publish it.

JAMES BOYLE.

To make Paint without Whitelead and Oil.

2 quarts skimmed milk.
2 ounces fresh slaked lime.
5 pounds of whiting.

Put the lime into a stone ware vessel, pour upon it a sufficient quantity of milk to make a mixture resembling cream: the remainder of the milk is then to be added; and lastly, the whiting is to be crumbled, and spread on the surface of the fluid, in which it gradually sinks. At this period it must be well stirred in, or ground as you would other paint, and it is fit for use. There may be added any coloring matter that suits the fancy.

It is to be applied in the same manner as other paint, and in a few hours it will become perfectly dry. Another coat may then be added, and so on, until the work is completed. This paint is of great tenacity and possesses a slight elasticity, which enables it to bear hard rubbing even with a coarse woollen cloth, without being in the least degree injured. It has little or no smell when wet, and when dry is perfectly inodorous. It is not subject to be blackened by sul-

phurous or animal vapors, and is not injurious to health. All which qualities give it a decided advantage over white lead.

The quantity above mentioned is sufficient for covering twenty-seven square yards with one coating.

(From the Genesee Farmer.)

TO DESTROY MICE.

MR. GOOSELL:

Middlesex, July 20, 1832.

Take one ounce of Nux Vomica, bruise it in a mortar, pour on to it a quart of boiling water and let it stand from six to twelve hours, then pour into it a quart of wheat and let it stand again from six to twelve hours, by which time the wheat will have swelled and absorbed nearly all the water, it may then be spread on the floor to drain and dry. If a larger quantity is required, (observing the same proportion,) it may be increased to any extent desired. This wheat may then be scattered over the field, and put in the way of the mice, and in the woods if any harbor there.

I know that this will destroy rats and squirrels, and I believe will be found equally effectual with mice.

Yours, &c.

R. M. W.

THE LARGEST FLOWER AND THE LARGEST BIRD.

In 1818, Dr. Arnold discovered in the island of Sumatra a flower which he named the *Raffia Arnoldi*, and which an author has called with much justice "the magnificent Titan of the vegetable kingdom." The human mind indeed had never conceived such a flower; its circumference when expanded is nine feet; its nectarium calculated to hold nine pints—the pistils are as large as cow's horns, and the entire weight of the blossom computed to be 15 lbs. Temple, in his recent travels in Peru, states that he shot a Condor, and, from notes taken on the spot, gives us the following dimensions of its size: "When the wings are spread, they measure 40 feet in extent, from point to point; the feathers are 20 feet in length, and the quill part 8 inches in circumference." This almost realizes the fabled roc of Sindbad in the Arabian Nights; but its dimensions, as here given, rests on good and very recent authority.—*The Penny Mag.*

(From the New York Enquirer.)

DURHAM COWS, &c.

Mr. Richard Hatter, a passenger in the brig *Edmond Castle*, lately arrived here from London, has brought over with him two cows and a calf of the true Durham breed, also twelve sheep of the true English breed.

Cranberries.—As this fruit is largely employed in most families, some persons may be glad to be informed, that these berries may be preserved several years, merely by drying them a little in the sun, and then stopping them closely in dry bottles.—*Parkes.*

Brown Bread.—Indian meal, half a peck; rye meal, half a peck; molasses, one gill; yeast, half a pint; salt, two table spoonfuls. This is to be mixed with skimmed milk, boiled and cooled, but water, milk warm, will answer. It must be mixed quite soft, kneaded one half hour, and baked in iron pans twelve hours.

Baked Beans.—Take one quart of beans, wash them thoroughly, soak them over night and rinse them in the morning. Put them into an iron pan with two quarts of water and stew them over the fire quarter of an hour. Then wash and score one pound of pork (fat and lean) and put it into the kettle with the beans and boil them quarter of an hour longer; then stir in two table spoonfuls of molasses, fill up the kettle with water, and if possible let them stand in the oven over night.—*Northampton Cour.*

WANTED,

At the American Farmer Office and Seed Store, all kinds of GRASS SEED, CLOVER SEED, pure SEED GRAIN, and choice Domestic Animals. Apply to
I. I. HITCHCOCK.

LINNEAN BOTANIC GARDEN AND NURSERIES, FLUSHING, NEAR NEW YORK.

WILLIAM PRINCE & SONS wish to acquaint the public that the present being a leisure period, they will with pleasure impart any information touching Horticultural subjects, which may be solicited from them, and will transmit the *Nine Catalogues* of their establishment with the reduced prices, to all applicants.—Letters to them it is presumed will be not paid.

The immense extensions made to their Nurseries which now cover near fifty acres compactly filled and the concentration therein of the rarest and choicest productions of foreign climes have elicited from their fellow citizens an extension of patronage highly gratifying to their feelings. One point of the utmost importance which has particularly engaged their attention, is the critical investigation of all the varieties of fruits, and a strict attention to their accuracy; and their recent publications on this subject contain descriptions so minute, that every person can decide for himself.

The establishment contains at the present period more than a million of Trees and Plants, and the proprietors are willing to enter into arrangements of the most liberal description both as to prices and credit, with all such persons as desire large quantities of Trees, &c.; and with those proprietors of Nurseries who wish to extend their collections, and such other persons as may wish to establish new Nurseries, they will enter into arrangements on terms which will allow ample time for advantageous reimbursement.

Any persons who are desirous to act as Agents to towns where no Agency already exists, will please to communicate their views in regard thereto. Where those who desire to send orders for trees are not conversant with their respective qualities, they can consult the "Treatise on Fruits," recently published, in which about eight hundred varieties are described.

Sept. 7. 11.

PLANTATION FOR SALE.

The Subscriber offers for sale the plantation whereon he lately resided in Sassafras Neck, Cecil county, Maryland, one mile below Rose Hill, the seat of General Forman, and about fifteen miles below the mouth of the Chesapeake and Delaware Canal. It contains eight hundred and eight acres, of which about five hundred and fifty acres are arable, and for the most part in a high state of cultivation. The wood and timber abundant and fine. The quality of the soil is first rate, and little or none of the tract is waste. Its form is an oblong square, and is bounded on the South by Sassafras river, and on the north by Ponds creek, and may be said to be enclosed on two sides by water. On the tract is Ordinary Point, one of the most celebrated points for shot shooting in Maryland, especially for canvas backs. The situation is high, and commands a fine view of Turkey Point and the head waters of the Chesapeake bay, and is about mid-way between the Philadelphia, Brandywine and Baltimore markets, and has convenient landings for shipping the crops to either market. For the growth of Indian corn, wheat, timothy and clover, this farm is not surpassed on the Eastern Shore of Maryland, and as such offers the highest inducements to the farmer, the grazier, and the sportsman.

The improvements are a comfortable dwelling house, and other suitable buildings, a young apple and peach orchard, in full bearing, and a choice collection of other fruits. It will be sold low and the terms of payment made easy. To the capitalist it is an object for an investment, as the rents received will average per annum seven per cent. on the sum that would command it.

For further particulars apply to Levin Gale, Esq. Elkton; James Rogers, Esq. New Castle, or to William Cooke, Esq. Baltimore. Captain Craddock, residing on the place, will show it to persons desiring to see it.

O. HORSEY,

Sept. 7. St. Petersburg, Frederick Co. Maryland.

ORCHARD GRASS SEED.

100 lbs. Orchard Grass Seed, just received and for sale by
SINCLAIR & MOORE.
Sept. 7.

STRAWBERRY PLANT'S, TURNIP SEED, &c.

The subscribers are now prepared to deliver to order, Strawberry Plants of the most approved kinds, which will be packed so as to warrant their safe arrival at any part of the United States. The months of August and September being the most favorable season for transplanting, it will be well for those who wish to purchase, to give their orders early, and by care in planting, with an occasional watering, fine plants may be produced.

The kinds now on hand are, large Early Scarlet; large dark old Pine; French red Alpine and Faulkner's late Scarlet, at 25 cents per dozen, or \$1 per hundred; large dark musk Hautboys; new black musk do; white monthly; scarlet Lima; Dawson, Wilnot's superb and Roseberry, at 50 cents per dozen, or \$2 per hundred.

Our nursery is rapidly progressing towards the point destined at its commencement. We have now closely planted about 13 acres with fruit and ornamental trees, shrubs and vines.

TURNIP SEED of various kinds and many other fresh seeds, for summer and fall planting.

SINCLAIR & MOORE,

Aug. 10. Grant street, near Pratt-st. wharf.

BLOODED HORSES, BROOD MARES, AND COLTS FOR SALE.

At the residence of the late Alexander F. Rose, Esq. in Stafford County, Vir.

No. 1. ch. m. FLORA, fourteen years old, out of Miss Dance, by Ball's Florizel.

As the character of Florizel is so generally known, and ranks him among the most distinguished horses of his day, it is deemed only necessary to say, he was the sire.

No. 2. b. m. PET, ten years old, out of Miss Dance, by St. Tammany.

St. Tammany, the sire of Pet, was full brother to Florizel, and bred by Maj. John Roberts, of Culpeper, who purchased him a sucking colt, and, when only three days old, gave for him 100 guineas. When a colt he was put in training by Maj. Roberts, but an accident occurring, was withdrawn from the turf. In point of performance and appearance, his judicious owner esteemed him at that age as promising to be fully equal if not superior to his brother Florizel.

Miss Dance, the dam of these two mares, was by Robuek, was bred by Col. Dance, of Chesterfield, and is well known to have been one of the finest mares in Virginia. When twenty-three years old, and owned by Maj. Roberts, \$500 was offered for her and refused. The dam of Miss Dance was by Independence, grand dam by the imported horse Centinel, or Flinnap, g. grand dam by the imported horse old Janus. Robuek was by the imported horse Sweeper, son of Mr. Beaver's Great Driver; his dam by the imported horse Bagazet, son of the Earl of March's old Bagazet, son of the Godolphin Arabian.

These two mares are now in foal by Carolinian, a distinguished son of Sir Archy; and out of them are the following colts:

1. a ch. f. three years old, out of Flora, by Lafayette.
2. a ch. f. two years old, out of Flora, by Contention.
3. a b. f. two years old, out of Pet, by Contention.
4. an iron grey, one year old, out of Pet, by W. R. Johnson's Medley.

No. 3. ch. m. Virago, eight years old, by Wildair, dam by the imported horse Hamilton, grand dam by Spread Eagle. Wildair was by Ajax, and bred by Col. Walker, of Amherst, his dam by Knowless, grand dam by Highflyer, g. grand dam by old Wildair, g. g. grand dam by Asael, g. g. g. grand dam by Aristotle, g. g. g. g. grand dam the celebrated running mare flexisford.

Out of Virago, is a fine two year old filly, by Contention, and she has now by her side a beautiful bay filly, by Governor Barbour's imported horse Young Truile, and is now in foal by Carolinian.

No. 5. ch. m. Cora, six years old, full sister to Virago and Nettle, and in foal by Carolinian.

Out of Cora, is a beautiful ch. f. one year old, by Contention.

Application to be made to the Executors of Alexander F. Rose, deceased, Fredericksburg, Virginia.
Aug. 10. 2ms

THRESHING MACHINES.

The Subscriber would inform the public that he has obtained the patent right for FOX & BORDEN'S PATENT THRESHING MACHINE for all the State of Maryland, with the exception of Washington, Frederick, and Montgomery counties, and also for the lower counties of the State of Virginia that lie contiguous to Maryland. These machines possess several and very important advantages over all other machines, which have been introduced for threshing. The concave bed to this machine is placed upon springs, which enables it to recede from the cylinder when over fed or any hard substance gets in, this, with the peculiar form of the spikes and the manner of setting them, renders it impossible to break or injure the machine, and at the same time enables it to perform the work with about one-half the power required by other threshers. It can be readily set to shell corn with great facility, and also to break the corn cobs sufficiently fine to feed stock; it is likewise very simple, easily managed, and the price reasonable, say from sixty to eighty dollars, according to size, or including the horse power complete, from one hundred and sixty, to two hundred dollars. To those counties referred to in Virginia, he offers the patent right for sale to include a machine with each county right. All communications with him, must be made prompt attention.

J. S. EASTMAN,

Pratt, near Hanover street, Baltimore.

STRAWBERRY PLANTS in variety, and RHUBARB PLANTS, for sale at the American Farmer Office and Seed Store. [For particulars see last No.]

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—The prices of flour remain steady. The receipts of Howard street are quite limited, and the wagon price continues at \$6.50. The supplies of wheat and other grain are abundant, and sales are generally made within the range of our quotations.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 5.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a —. Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 5.00. The inspections for the last two weeks comprise 1052 hds. Md.; 301 hds. Ohio; and 27 hds. Ken.—total 1350 hds.

FLOUR—best white wheat family, 7.25 a 5.00; super Howard-street, — a 6.25; city mills, 6.37 a 6.50; Susq. — a —; CORN MEAL bbl 3.50; GRAIN, best red wheat, \$1.15 a 1.18; white do 1.25 a 1.28; Susq. — CORN, white, 64, yellow 15 a 66; Rye, 70 a 73 — OATS, — a 35.—BEANS, 75 a 80.—PEAS, 65 a 70.—CLOVER-SEED — a —. TIMOTHY, — a —. ORCHARD GRASS 2.00 a 2.25.—Tall Meadow Oat Grass — a —. Herd's, 75 a 87 1/2.—Lucerne — a 3 7/2 lbs.

BALTIMORE, FLAX-SEED 1.50 a 1.65.—COTTON, Va. 5a10.—Louis 9 a 13.—Alab. 5 a 11.—Tenn. 8 a —; N. Car. 8 a 10.—Upland 8 a 11 1/2.—Whiskey, hds. 1st p. 30 a 31; in bbls. — a 33.—Wool, Washed, Prime or Saxony Fleeced 50 a 60; American Full Blood, 45 a 50; three quarters do. 40 a 45; half do. 35 a 40; quarter do. 30 a 35; common 25 a 30. Unwashed, Prime or Saxony Fleeced, 30 a 35; American Full Blood, 27 a 30; three quarters do. 25 a 27; half do. 22 a 25; quarter do. 20 a 25; common, 17 a 20. HEMP, Russia, 100, \$220 a —; Country, dew-rotted, — a 7c. lb. water-rotted, 7a 8c.—Feathers, 36 a 37; Plaster Paris, per ton, 4.12 1/2 a 4.25, ground. 1.50 a — bbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.00 a 5.50.—Oak wood, 3.37 a 3.75; Hickory, 4.50 a 5.00; Pine, 2.25 a 2.75.

CONTENTS OF THIS NUMBER.

Editorial; The Vine—American Railroad Journal—Foreign Markets—Cultivation of a Farm—Perpetual Pasture—Fallow Crops—Plants, &c.—Vegetable Injurious—Tree Mignonette Feeding—Calves for Veal—Feeding—Cattle—Training Oxen—Bread—Paint—To Destroy Lice—Large Flower and Bird—Durham Cows—Cranberries—Brown Bread—Baked Beans—Prices Current of Country Produce in the Baltimore Market—Advertisements.

THE FARMER.

BALTIMORE, FRIDAY, SEPTEMBER 14, 1832.

TO OUR SUBSCRIBERS.—A part of our last number must have reached our subscribers rather later than usual, owing to the hindrance occasioned by sending in the paper our bills to those who have not paid for the current year's subscription, which according to our "terms" is now due. To those who have already paid we tender our hearty thanks; to those who have not, we respectfully observe that this is our HARVEST TIME. Every farmer understands the mental associations with this season, and every good farmer will take pleasure in making it one of joy and gratitude. Has he looked with anxiety for the approaching ingathering? So have we. Has he already rejoiced in the successful housing of the reward of his toil? So let it be with us his laborers, who will still strive unremittingly to be worthy of our hire.

BEDFORD BREED OF HOGS.—We have had many applications for information on the subject of the Bedford breed of hogs, brought to this country many years ago by Mr. Parkinson, designed as a present to General Washington, but which were obtained by several gentlemen in the neighborhood of Baltimore. The information desired is, whether this breed remains in its original purity in this country; whether it is really superior to the common breeds, and if so in what respect and to what relative extent; and whether animals of the breed can be obtained, and at what cost. From our own knowledge we are unable to answer these questions. The only gentleman we can hear of who possessed the original stock, was the late general Ridgely, of Hampton. We have visited Hampton for the express purpose of obtaining the information above designated, and can only learn that the Bedford hogs were esteemed by the late general Ridgely superior to all others; but that the breed has been lost by continual admixture with the common breeds. Scarcely a shade of the originals can now be distinguished. This is all the information we have been able to obtain relative to these hogs in the neighborhood of Baltimore. But we are informed that the Hon. Oliver Fiske, of Worcester, Massachusetts, possessed the breed in its purity six or seven years ago, and from his known good management it is most likely he still possesses it. If he does, we shall esteem it a great favour if he will communicate to us any information he may think of value. He will no doubt at least be able to inform us where the animals may be obtained; and by complying with this request he will render a valuable service to the agricultural interest of the middle and southern states.

We cannot dismiss this subject without a passing remark on the inattention generally bestowed upon this most valuable stock by farmers generally. While the hog contributes more to the larder in the middle, southern and western states, than any other animal, and is indeed the most profitable of all stock, when judiciously selected and managed, it is the most neglected of all. If a good breed is obtained either by accident or design, it is soon allowed to "run out," by promiscuous breeding with other, or non-attention to selection of breeders from the same stock. (For it must be remembered, that any breed of animals however good originally, if the best and finest formed are not selected as breeders, will soon degenerate.) But the most general fault is carelessness of obtaining good breeds; why it is so we know not, but the fact cannot be denied. In the fall of 1823, while on a visit to the state of New York we came across the finest breed of hogs we ever saw, and though not there prepared for keeping stock we obtained a pair of fine pigs, and had them brought to Baltimore at considerable expense, intending to let some one have them who would attend to them. Will it be believ-

ed that we could find no one who would pay the expenses and take them, although all confessed they were every way superior to any breed among us. Having no means of keeping them ourselves we were obliged to sell them to a man for killing, and he willingly paid us more than they cost us even to make pork off! Such is the apathy generally in relation to breeds of hogs; and this is the reason why those who have the knowledge of the existence of good breeds and where they may be obtained, do not provide themselves with them for the supply of the country. We can obtain any breed of hogs desired, but as we only keep stock for sale, it would not be worth while for us to expend money and time on superior breeds when they are not in demand. Recently, however, the spirit of improvement seems to be waking up, and we shall venture to make another trial, and as soon as we obtain any animals of value, our readers shall be informed of it through the medium of the Farmer.

Many persons suppose that one breed of hogs is as good as another, and therefore pay no attention to the matter. That this is a great error is easily shown. We have seen some hogs that would eat more corn in the process of fattening than their carcasses would sell for, and others that required no other feeding during summer than a good pasture, and not more than a fortnight's feeding with corn to make them "cut three inches on the ribs." Now is there not a very great difference in the value of these breeds? Again, we have seen hogs that would only attain to 100 pounds weight in twelve months, and others that would weigh 200 to 300 pounds in the same time, and on the same keeping. Is there not some difference in these two breeds in point of profit? Again, we have seen hogs whose long faces, long legs, long ears, and long bones, weighed as much as all the rest of the carcass; and others whose skulls were exceedingly small; and the former would consume three times as much corn as the latter in preparing for the knife. Besides the difference in quantity of eatable bacon of these two breeds, which is at least 25 per cent in favor of the small skull breed, the difference in cost of fattening is at least 25 if not 50 per cent more. These are facts which do not admit of a doubt, and we believe they are notorious. Why then do farmers not obtain the fine breeds? That is the question. There is another advantage in the fine breeds that must not be overlooked—the bacon is worth 20 per cent more than that of the large boned coarse fleshed breeds. Indeed the quality of the bacon of the fine breeds is so superior to that of the coarse, that it does not seem to be of the same species of animal. We were never so fully aware of this fact as while on a visit at our friend Barnitz's, in York, Pa. last fall. He has a breed which he obtained by crossing the common Chester county breed with a very small offal China breed; they are always fat enough for good pork when running on very ordinary pasture, and only require a few days feeding on corn to make first rate bacon. The pigs of early spring generally weigh 200 to 250 pounds at killing time—say in December. But the quality of the flesh is superior to any thing we ever saw. It is remarkably fine grained, compact, juicy, and well mingled with fat; while the bone is so small that we are satisfied a ham contains several pounds of flesh more than an ordinary one of the same weight. We are not sure that Mr. Barnitz's breed is not superior even to the Bedford breed.

We must here observe that the great obstacle to improvement in the breed of hogs, is to be found in the general practice of allowing them to run at large, and to sustain themselves on nuts, acorns, &c. in the woods. So long as this practice continues, it is obvious that no improvement can take place in the breeds. Those who follow this practice pay little attention to their breeders. The sow that escaped the knife the winter before, from utter poverty of carcass, is permitted to run in the woods, and furnish

a litter of long legged pigs, by some rawboned, long shanked wild boar, that had escaped slaughter merely by his not being worth shooting. That this is the true pedigree of half the hogs in the southern and middle states, cannot be denied. It is obvious, that while such practices continue, it is next to impossible for even those who do keep their hogs in pastures to improve their breeds; for these wild hogs are continually making their way into the enclosures, and thus defeating all the exertions used to keep the improved breeds distinct. True it is, that hogs that are thus allowed to range at large cost their owners little for keeping. They very often, however, cost their neighbors more than their carcasses are worth, by their depredations on cornfields, potato patches, &c. and should be restrained on this account, if for nothing else, by all who do not wish to fill their smoke houses at their neighbor's expense. But it is not a subject of doubt with us, whether they return as much profit, as would a good breed judiciously managed in a pasture; and we will venture to assert that any farmer who shall give the experiment a fair trial, will never again resort to such a breed and such a practice.

In conclusion, we solicit of our friends and correspondents, all the information in their possession relative to improved breeds of hogs. Those who possess such as they conceive to be valuable, or know of any in their neighborhood, whether of any known name, or the product of a judicious system of breeding, by favoring us with a description of them, giving the average weight of pork at twelve months old, &c. &c. will confer a favor on the agricultural community.

(For the American Farmer.)

A REMARKABLE FLOWER.

Flint, in his History and Geography of the Mississippi Valley, has the following passage: "We have seen a large flower on the arid bluffs of that high limestone wall that runs like a huge parapet between St. Genevieve and Herculaneum, on the west bank of the Mississippi. The summit of this parapet has not more than two or three inches of soil, and is bare of all vegetation, but a sparse, seared grass. It was under the blazing sun of July when every thing but these flowers, was scorched. The cup of the flower was nearly half the size of the common sunflower.—It rose only four or five inches from the soil, and covered it as with a gilding. We have seen no description of this striking flower, nor have we seen it existing elsewhere." It is to be presumed from the term "gilding" that the flower was yellow.

I wish to ask if any reader of the American Farmer resides in that quarter? and if so, whether he would be willing to collect some of the seeds when well ripened, and after drying them in the sun, transmit a small packet, not weighing more than an ounce, by mail, or otherwise, to the Editor? The favor would be promptly reciprocated in regard to any seeds that could be procured in this quarter.

AN ANATEUR.

[The Editor of the American Farmer will be greatly obliged to any subscriber or other gentleman in the neighborhood of St. Genevieve or Herculaneum, who will comply with the above request of our correspondent. It will confer a favor on ourselves as well as our respected friend, and most probably also on the lovers of flowers generally.]

FOREIGN MARKETS.

LONDON, Aug. 4.

General weekly average received in the week ending July 27: Wheat, 6s. 7.415d.; Barley, 3s. 4.105d.; Oats, 2s. 4.663d.; Rye, 3s. 0.829d.; Beans, 3s. 7.897d.; Peas, 3s. 1.878d.

Aggregate average of six weeks, which governs duty: Wheat, 6s. 2d.; Barley, 3s. 2d.; Oats, 2s. 4d.; Rye, 3s. 11d.; Beans, 3s. 11d.; Peas, 3s. 9d.

AGRICULTURE.

APPLICATION OF GEOLOGY;

AS THE BASIS OF THE SCIENCE OF AGRICULTURE.

BY PROFESSOR A. EATON.

SOILS.

An error of importance had prevailed among geologists, on the subject of the origin of soils, until a classification of detritus was established. Cuvier's theory of the earth did much towards the present improved state of that department of geological knowledge.—But Schoolcraft suggested the first thought ever published, on a classification, which is in accordance with the present views of geologists on that subject; though his nomenclature was different.* Near the same time Conybeare, Buckland, and others, gave a character to it, which will endure.

It seems to be demonstrated, that anti-deluvial detritus (called the tertiary formation) is a deposit, as independent and distinct, as secondary rocks. It cannot be traced immediately to any adjoining rocks.—Consequently its character cannot be explained by referring to other strata; unless we admit the general principle that all deposits, made after the deposition of the lower part of the argillite, consist of fragments of the older rocks.

The principle heretofore received then, that soils depend for their constituent characters on underlying rocks, cannot be received any farther than as applied to *analluvion*. All other kinds of soil have characters as independent as transition or secondary rocks; and they may be classified now, with as much accuracy.

FERTILITY OF SOILS.

1. Fertility of merely earthly soils does not depend on their ultimate chemical elements. Pulverized emery, which is almost pure alumine, will have the same influence upon vegetation as pulverized quartz, which is nearly purely siliceous. Hence the reason that Davy, and other distinguished chemists have disappointed agriculturists by their analysis; which were founded on such mistaken views.

2. The perfection of earthly soils, without any reference to animal, vegetable, or other adventitious matter, requires the following constituents in due proportion:

1. *Stones and pebbles* sufficient to keep the soil open and loose. 2. *Clays* sufficient to absorb and to hold water in a just proportion. 3. *Fine sand* in sufficient quantities to prevent the clay from baking into a compact mass, in time of drought. 4. Also to prevent its retaining so much water in the winter season, as, by expansion during the freezing of the water, to draw the roots of vegetables from the earth—called the winter-killing process.

To select a farm for purchasing, or to improve land by artificial means, without the application of manures, requires particular attention to these proportions.

Vegetables receive their chief support from the atmosphere; and the whole of it when they grow in clean, pure, unmanured earth. Neither dry sand nor baked clay will absorb the nutritious gases. Duly moistened earth absorbs carbonic acid, ammonia, and other nutritious gases, which are received from the soil by the fibrous rootlets, for the use of plants.—Charcoal and other carbonaceous matters, absorb these gases with great avidity. Hence the great value of carbonaceous manures, as rotted straw, charcoal, &c. But a due proportion of moisture is essential to absorption in all cases. Hence the importance of attention to soils in reference to the absorption and retention of water. Hence too the importance of frequently stirring and disturbing the dry surface of the

soil, in time of drought, by hoeing, ploughing, &c., in order to present a moist surface to the atmosphere; without which, nutritious gases cannot be absorbed.

Carbonate of lime, sulphate of lime, and all the soluble salts, as well as putrifying vegetables and animals, should be considered as manures. They all act either as absorbents like charcoal; stimulants, like gypsum, muriate of lime, &c.; or as furnishing nutritious matter by their decomposition, like fish, rotted straw, &c. Therefore the geological agriculturist studies chiefly the proportions of *stones, pebbles, clay and sand*. The study of that part of geology which relates to *detritus*, is the true study of the first principles of elementary agriculture.

By a reference to the system of classification, in the preceding part of this text book, it will be seen that all detritus is distributed into eight deposits.—1. Plastic clay. 2. Marly clay. 3. Marine sand. 4. Shell-marl. 5. Diluvion. 6. Ultimate diluvion. 7. Post diluvion. 8. Analluvion. After studying the character of these deposits, nothing more is required than a mere application of common sense to each particular case.

CLASSIFICATION OF SOILS.

1. *Plastic clay*. This stratum is rarely found at the surface of the earth, except at its out-croppings in banks. It is destitute of any material portion of carbonate of lime—being the clay used by potter-bakers. Without any intermixtures, it would bake in the dry season, and be running mortar in rainy weather. Intermixed with marine sand, it would be tolerably productive. Wheat winter-kills in it more than in any other soil.

2. *Marly clay*. (London clay.) This stratum is almost universal in bottom grounds. Alone, it bakes in a drought, and is mortar in a wet season. Wheat winter-kills in it. But it generally contains from fifteen to twenty per cent. of carbonate of lime, and considerable muriate of lime. Wells dug in it, almost invariably furnish "hard waters," on account of the muriate of lime. These salts give it richness.—Therefore if it is duly mixed with marine sand (which generally overlays it) it forms rich and very durable soil. From near Lake Champlain to Greene county, on the west side of the Hudson, this clay, overlaid with marine sand, prevails. Also throughout most of the northern part of New-Jersey, along the valley of the Mississippi, &c. If the vast plains of *marine sand*, between the Mississippi and Rocky Mountains, are generally underlaid with this clay, as they certainly are in some localities, next culture may, under the hand of culture, enliven that barren waste with fruitful fields.

3. *Marine sand*. (Bagshot sand.) This stratum alone is a meagre barren soil; but makes an excellent kind when duly intermixed with the marly clay beneath it, as mentioned under marly clay. This stratum often passes into crag, or stratified gravel, hardpan, &c.—The crag is a better soil alone, than the sand, excepting the hardpan, and some other varieties, wherein the gravel is held together compactly by ferruginous, calcareous or clayey cement. But if duly intermixed with the marly clay, it forms a good soil.

4. *Shell-marl*. This deposit is a most excellent manure, when intermixed with any of the other soils—best in soils where clay predominates. It is chiefly carbonate of lime; but being made up of broken shells or minute species, it is always in a state suited to its application as a manure. But when alone, it is not very productive, especially in a dry season.

5. *Diluvion*. As this deposit is the most heterogeneous of all deposits, it presents the characters of most other soils. In general it is very rich in vegetable manure; but it is often too loose, and requires an artificial intermixture of clay. It presents all its characters along the Erie canal, between the Little Falls and Genesee river. It frequently affords localities of vegetable mold, which may be advantageously carted upon other soils. As it is generally in narrow

slips or small fields, the surrounding grounds may receive its benefits with but little carting.

6. *Ultimate diluvion*. This seems to have been a thin universal mantle, covering the earth in the first ages after the deluge. It still remains undisturbed in the most ancient forests. But in all cultivated grounds, has been intermixed with the underlying soils. In its undisturbed state, it is the soil to which the word *loam* is most properly applied. Alone, it is a durable and rich soil, excepting where sand predominates. Mixed with other soils, it is always useful.

7. *Post diluvion*. Near the sources of the waters, which deposited this soil, it is always too coarse and destitute of any fertilizing quality—remote from these sources, it is fine and rich—midway between these extremes, it is middling in character. But post-diluvion is, from the nature of its origin, exceedingly variable—every locality depending on the deposits from which the waters flowed.

8. *Analluvion*. This kind of soil is perpetually forming by the disintegration of rocks, whose surfaces are exposed. Its character depends entirely on the constituents of the rock. Therefore argillite and argillaceous gray wacke produce, by disintegration, clay soils. Rubble wacke, granular quartz, and other quartzite rocks, produce sandy soil. Hornblende rocks produce a rich intermixture.* Limestone rocks, particularly argillaceous limestone, as the geodiferous linerocks, produce a rich calcareous and aluminous soil.

Broken fragments of rocks disintegrate and become soils with a degree of rapidity, directly as the superficial measure of surface exposed to the disintegrating agents (water, air, and variation of temperature) is to their quantity of matter. Consequently lands may be suddenly enriched by throwing upon them linerock, hornblende rock, (whether basaltic or primitive) argillite, &c. in a finely pulverized state. Or they may be gradually and permanently enriched by scattering over them broken fragments, one inch, or two inches in diameter. The rock must be selected according to the original components of the soil; so as to supply what appears to be deficient. Tabular spar (a fragile variety of carbonate of lime, or linerock) which abounds along the western side of Lake Champlain, has recently been applied, with astonishing success, in the finely pulverized state. In the fragmented state, it had been applied for several years, to great advantage. No farmer is more opposed to mere speculative theory than myself; but facts place the advantages of strewn soils with pulverized rocks and fragments, beyond the reach of speculation.

GEOLOGICAL ANALYSIS OF SOILS.

The chemical analysis of soils with a view to detect their ultimate elements, has promised much—particularly in the hands of Davy. But it has, in all cases, disappointed the hopes of the practical farmer, for reasons given under Fertility of Soils. It is to the Geologist, not the Chemist, that the practical farmer must look for instruction; so far as *mere soils* are to be considered. The detection and application of stimulating earths and salts (as gypsum, lime, &c.) and of decomposed or decomposable vegetable matters, come within the province of the chemist.

Chemical analysis of soils, like other analysis of mineral bodies, give the ultimate elements in a manner, which is favorable to the pursuits of the student in chemistry and chemical mineralogy. The compli-

* Dr. E. James observes, (see Long's Expedition, vol. 2, p. 402) that in the midst of the Great Desert near the Rocky Mountains, where all was "brown and desolate, as if recently ravaged by fire," the hills of greenstone trap, which consist essentially of *hornblende*, were covered with a green turf from their bases to their summits. This is a discovery of more value to agriculture than all that Sir H. Davy ever made; though to the mineralogist and chemist they are useful. But who knows the modest, the amiable, the excellent Edwin James? New England might be enriched by an attention to this subject—and would too, had Davy told us this fact.

* See my Index to the Geology of the Northern States, 2d ed. 1820.

ated mixtures of soils afford an excellent field for a trial of his strength in his first essays at analysis. This is, however, widely different from those researches and investigations, which the impatient anxiety of the farmer demands. The student is pleased with results, which evince the correctness of his pre-conceptions, and the adroitness of his manipulations, regardless of utility.

But those analyses, which belong exclusively to the chemist, detect fugitive and variable materials, which are not to be considered as a part of permanent soil. They may be varied from year to year at pleasure; and their proportions may be calculated as they are artificially varied, or they may be detected and estimated by the chemist after they are added. As vegetable and animal matter is a geological deposit, easily detected and always present in a greater or less proportion, it should be considered as a part of geological analysis.

Geological analysis of soils may be made, by pursuing the course of geological deposition in miniature. That is, soils may be deposited from water, in the assay glass or a common tumbler, after suitable preparations, so that the proportions of siliceous, alumine, animal and vegetable matter, water of combination, and power of absorbing, may be shown. These are the most important subjects of inquiry when the object is to improve the soil, or to judge of the best method of culture, or of the most profitable articles to be cultivated on particular fields or farms. The elevation of grounds, above the level of the ocean, and the degree of latitude, are also subjects of great importance. Humboldt's Equivalents, deduced from comparing the effects of high latitudes with mountain elevations, should be duly applied.

Formula for Geological Analysis of Soils.

1. Select about one quart of soil which shall appear to be an average of the field.—Spread it out and make it as dry as it can be made by the sun's heat, after thoroughly intermixing all parts of it.

2. Pulverize it as fine as can be done by rubbing in the hands. Take half of it, and pick out, by the assistance of shaking in a dish, all roots, straws, &c., also all pebbles or grains over the size of a common pinhead.

3. Weigh out, of the finest of it, with accurate scales, three parcels of 200 grains each. First, for determining the water of combination. Second, for determining the animal and vegetable matter. Third, for determining the siliceous matter; or, rather, the earthy part which does not combine with water excepting by superficial attraction of adhesion. The same parcel is also employed for determining the Aluminous part, and the power of Absorption.

4. Heat the first parcel in a crucible, or gallipot, constantly stirring it with a dry pine stick, until the stick becomes a little brownish from the heat, when pressed against the bottom of the crucible. Now weigh it, and set down the loss for *water of combination*.

5. Heat the second parcel, stirring as before with a glass rod or slip of window glass, until it is at a red heat, and to glimmering sparks to be seen. Weigh it, deduct the weight of the water of combination, and set down the remainder of the loss for *animal and vegetable matter*.

6. Put the third parcel into a pint of pure water. Stir it repeatedly for about ten minutes. Let it stand precisely three minutes for the siliceous matter to settle. Pour off into another vessel, all the supernatant liquid and its contents. Add another pint of water to the siliceous sediment. Let it settle just three minutes as before. Pour off all the supernatant liquid again. Dry the sediment about as dry as when weighed.—Weigh it and set it down for *siliceous matter*.

7. Subtract the sum of the weights of the *water of combination*, the *animal and vegetable matter*, and the *siliceous matter*, from 200 grains, and set down the remainder for *argillaceous matter*.

8. Pour into one glass vessel the two portions of supernatant liquid, which had been poured from the siliceous matter, and note the time required for settling, so as to leave the liquid clear. Set the time down for *power of absorption*.

Analysis made by Dr. T. R. Beck and myself, of soils taken in the vicinity of Albany and Troy.

Upland loam. Absorption, 4 hours in settling.—Water of combination, 4 per cent.—Animal and vegetable matter, 5 per cent.—Siliceous matter, 63 per cent.—Aluminous matter, 23 per cent.

Best Inland loam. Absorption, 3 hours in settling.—Water of combination, 4 per cent.—Animal and vegetable matter, 12 per cent.—Siliceous matter, 53 per cent.—Aluminous matter, 26 per cent.

(From the British Farmer's Magazine.)

ON THE ECONOMIC MANAGEMENT OF FARM YARD MANURE.

Everton, Feb. 7, 1832.

Sir,—I made a proposal to the committee of the Liverpool Agricultural Society, of which I have the honor of being a member, to grant a premium to the owner or occupier, of any farm in our district who shall construct a middenstead, or receptacle for manure, upon the most approved principle, considering that it would be a very great advantage to farmers who purchase manure, to have a place in which they could keep it without waste. Being thus provided, they might purchase when the article was cheap, or at such times as their teams were most at leisure to cart it home. My ardent was somewhat damped by the reception which my observations met with from one or two individuals then present, but nevertheless I intend to renew my application to my brother committee-men.

For many years I occupied a farm at Maghull, about seven miles from Liverpool, and from my observations there, during those years, I was led to conclude that the farmers, to a man, wasted their manure to the extent of one-half of all they produced upon their farms, and I believe this to be generally the case throughout the north of England. Conviction was strongly impressed upon my mind by the following occurrence. I had set about eight acres out of nine, of which the field consisted, with potatoes, when I found that the manure was finished which had accumulated in my farm-yard. I consequently despatched carts to Liverpool, and purchased horse manure, out of a very deep middenstead, in a confined situation, which was rendered compact by the trampling of pigs which had been constantly kept upon it, and moist from their urine; in short, it was what the farmers call in a green state, that is to say, it was not rotten. The remainder of my potatoes were planted upon this ninth acre, with this Liverpool manure, and the same quantity was put into the drills as had been used of my own manure in the eight acres before mentioned, acre for acre or drill for drill.

My crop upon the acre set with the manure from Liverpool was double in quantity of potatoes to any other acre in the field. There was not any superiority in the quality of the land in one part of the field over any other part—it was all alike. Neither was there any difference in the *original* quality of the manure.

My own was horse dung, and my horses had eaten as much corn as the Liverpool horses. I had had pigs also running upon my midden. But the difference when the manure came to be used, consisted in this, namely, my farm-yard was large, and whenever any manure was thrown out of the stables it was spread over much space, and exposed to the open air and sun; whereas the Liverpool manure was kept in a place almost as confined as a vault, below the surface of the ground, with high walls round it, so that neither sun nor wind could get at it. This, I am convinced, was the sole cause of the Liverpool manure having so much greater an effect upon the

crop of potatoes than that which was taken out of my own farm-yard. I subsequently made other trials with similar results; for instance, where I put only half the quantity per acre of cow dung from a vault in Liverpool, that I put of cow dung made from my own cattle, and thrown into an open yard, or rather, put into a heap, in a hollow place scooped out for the purpose, I had quite as good crops of roots from the former as the latter. I must here observe that my manure had been made by cattle which were stall fed with turnips, mangel wurtzel, and bean flour, with a moderate proportion of hay, so that no milk cows in Liverpool had better diet. I must not omit to mention, that the effect of the Liverpool manure was very visibly beneficial to the subsequent crops of wheat in both the before named instances. I need hardly say, that manure which is made by animals highly fed, is superior in quality to that which is produced when they are poorly kept; but I must remark, that the better the quality of manure the more it loses by evaporation when exposed to the action of the air. Even though formed into large heaps for instance of one hundred tons, it wastes exceedingly in the field, particularly during the drying winds of March; yet you will frequently see farmers practise the plan of carting the manure into a field, which is to be sown with turnips or planted with potatoes, some weeks, or perhaps months, before it is to be used; and some of them will even turn over the heap that it may become more thoroughly rotten, as though, like the withered leaves of trees or potato tops, it would not decay quickly enough in the ground. If any one will take pains to weigh a quantity of good horse or cow manure, but particularly the former, when first taken out of a middenstead where little or no evaporation has taken place, put this manure into a heap in the field, let it lie a fortnight, or thereabouts, then turn it over and suffer it to rot for another fortnight, and lastly weigh it over again, he will find that the manure will have lost one-half of its weight; but it is still more worthy of remark, that the best part, viz. the ammonia, will have escaped into the atmosphere. To spread this kind of manure upon the surface of the land as a top-dressing, there to let it remain exposed to the sun and air, is a still greater waste, although the practice is not very uncommon. Even a compost of dung and soil I would recommend to have spread during the rain, or in a wet season, that the juices may at once penetrate into the ground. To use a simile—it is possible to keep a man alive for a long period by administering nutriment to the skin, but there will be much greater benefit derived by him if he take the same quantity into his stomach; almost in the same proportion will the advantage be found greater of putting the kind of manures before named in the inside of the soil in preference to spreading them on the surface, even when manure is to be ploughed under, or put into drills. The sooner the operation of covering it with the soil after it has been taken out of the middenstead the better; yet I have seen, in the county of Chester, a large field intended for potatoes, wholly manured before the plough was set to work to cover one particle of it. That whatever portion of manure goes into the air is lost; and that all the essential qualities of it have a strong tendency to fly off in vapor, any man of common sense will admit; but the extreme degree in which they possess this propensity is what very few are aware of. A friend of mine, who is a skilful chemist, has furnished me with the following account in farther explanation of this part of my subject.

"A cargo of manure was discharging from on board a canal boat, on a fine day, near the chemical works under my care, from whence dry muriatic acid gas was invisibly escaping. Upon a change of wind, which took place whilst this operation was going on, the gas from the works was conveyed by a light breeze in the direction of the boat, which gas, as soon as it came in collision or contact with the effluvia, or ammonia, from the manure, (and which was also in-

visible before these two gases came together.) immediately produced a dense cloud of muriate of ammonia, and which extended to the distance of a hundred yards or more, to the utter astonishment of the workmen, from its sudden appearance. The manure from this boat was afterwards spread upon a field adjoining the chemical works, and it was observed, for some time afterwards, that whenever the wind drove the gas in that direction, the same appearance took place, but was particularly visible in fine weather, producing a cloud of vapor of several yards wide across the field."

I will conclude with a remark or two upon the construction of farm middenssteads, in which much improvement may, I am certain, be made. But this ought to be a work of the landlord for his tenant, or rather for the farm, as a good place for keeping manure is as great an advantage to an estate as a good barn.

I will not here attempt to lay down the length, the breadth, and the depth, which a middenstead ought to be, but I will say, in general terms, that it ought to be water tight at the bottom and up the sides, and either arched over, or surrounded with walls high enough to keep off the wind, and also the rays of the sun.

Where a tolerably large stock is kept upon a farm, probably two middensteads would be better than one. I have it in contemplation, as soon as I can afford, to form two; one for the reception of horse manure, in connection with the sties, in such a manner that the pigs shall trample as much as possible upon it, and their urine, and the waste they make from the slops carried to them, may keep it sufficiently moist, and prevent heating and evaporation, without the necessity of throwing an arch over. The other I intend to place close to the shippings; and, as the manure of horned cattle is of a moister nature than that of horses, and as it is generally mixed with a smaller quantity of straw or other litter, I shall not form this middenstead for the accommodation of pigs. To keep the manure therein sufficiently moist, I will have channels very carefully formed, to carry, if possible, every drop of urine from the stables, as well as from the shippings, into it; and, notwithstanding the trouble of putting the manure in, and the still greater difficulty of getting it out again, in a wet or moist state, for manure can never be too thoroughly saturated with urine, purpose throwing an arch over it with apertures, which may be closed by means of doors, or lids, to fit air tight. Between the two middensteads I will form a reservoir for any superabundant moisture which may be in either.

If any correspondent of the Farmer's Magazine shall approve of my ideas, and will, through the medium thereof, favor agriculturists and landlords with a plan and specification of a middenstead, &c., he may render a service to those who choose to avail themselves of such kindness; and having said thus much, I beg leave to close my remarks, though, if any one shall endeavor to refute my arguments, I may, perhaps, attempt a rejoinder. I am, very truly, yours,

JOHN FORNEY.

(From the Goesece Farmer.)

CHESS—*Bromus secalinus*.

And God said, Let the earth bring forth grass the herb yielding seed, and the fruit tree yielding fruit after his kind, whose seed is in itself upon the earth: and it was so.—Gen. i. 11.

I observe in the Genesee Farmer, vol. 2, p. 242, an article upon the subject of "wheat turning to chess," upon which I shall venture to make a few remarks, leaving it for some able physiologist than myself to answer it in all its parts, as it is not my design to enter into a full description of the habits and peculiarities of the two plants, but to show the fallacy of the author's reasoning, and the unjustness of his conclusions in certain respects.

It has been said by some, that the opinion that wheat will turn to chess, exists only among the ignorant and illiterate vulgar; ignorant, it is true, every man must be, of the nature and structure of the two plants, and of the power of nice discrimination, who entertains such an opinion, but not ignorant in the general acceptance of the term. There are men within the circle of my acquaintance, men of good judgment and sound understanding, (or at least generally considered so) and who may be reckoned among our best farmers—who honestly believe that wheat will turn to chess—men whose opinions are entitled to respect, and however ridiculous the idea may appear to some, I think no man's honest opinions should be ridiculed, however erroneous they may be, but as the last resort to induce him to abandon them.

It is a mark of a great mind to withhold an opinion relative to things, in which it is not conversant; and I am always inclined to distrust any man's judgment who ever stands ready to give it upon any and every subject, of whatever name or nature, whether within the bounds of his own researches and the limits of accurate information or not; and he who ventures an opinion upon every occasion, and pretends to account for every (to him) mysterious phenomena of nature, in a manner to render it plausible to his confined views, and consistent with his limited experience, must expect that his assertions relative to such things will have very little weight.

Before proceeding farther, I will premise a few things, in which, if I should happen to be mistaken, I stand open for correction: and first, the writer of the article above alluded to is not, I presume, a practical botanist, for I never knew a thorough botanist who maintained the opinion which he advocates.

The writer says—"Notwithstanding much has been written on the subject of chess, by a man whom I highly value and esteem, for his superior talents and ability—I would not offer a contrary sentiment, if I thought him correct, for I think I can say, in all his observations I never knew him mistaken before." Now every reader will at once come to the conclusion, that the man here alluded to is not unacquainted with the physiology of plants, if he has, as asserted, written much on the subject of chess; and it would have been wise, or at least courteous, for our author to have expressed himself in terms a little less positive, for he plainly says that he highly values and esteems him for his superior talents and ability, and thinks that he never knew him mistaken before.—Now let me ask whose opinion is entitled to the most confidence, his who is wholly unacquainted with the organization of plants, or the opinion of him who unites to "superior talents and ability," an extensive knowledge of the Science of Botany? The one can see only the evidence upon one side of the question; a veil which nothing but the hand of science can remove shuts out the evidence on the other side; and, like the *Dutch Justice*, he hastens to decide without further ceremony. The other, with all this same evidence before his eyes, views with complacency the various organs and functions of the two plants; beholds each perfect in its kind, "whose seed is in itself;" calls to his aid those immutable laws of nature established by the invisible I AM, and, like an able judge, deliberately examines and weighs the testimony upon either side, and decides accordingly.

Notwithstanding the subject of chess has been hammered upon a long time, I am glad to see it introduced into the Genesee Farmer, for it is a subject of interest to every member of our wheat growing community; and I hope any observations that I have made or may make will not foreclose any communication from any one on this subject; and as haying and harvest are now over, I think farmers ought not to be backward in furnishing for publication their knowledge and experience in all things relative to agriculture, that will interest us.

Much more might very appropriately be said relative to the article alluded to, on chess; but as my ob-

ject is not to criticise, but to set things in their proper light, I will with a few more observations, come to a close.

The author goes on with that self-confidence which would alone lead us to doubt the correctness of his views. I shall only mention two or three of his most prominent assertions. He says—"And every field that is put in poorly, and the ground dry for a long time, the uncovered wheat will always produce chess as a natural consequence." This, however, might be a typographical error, perhaps he meant to have *an* *m* before the word natural, or prefixed to it. Again, "but wheat to turn to chess, is no more extraordinary to any mind, than from sweet to turn to sour, or cider to turn to vinegar."

I think nothing but the weakness of his cause could induce any man to make such an assertion as that, for certain it is that if wheat does turn to chess, it is not only extraordinary to thousands of minds, but something unparalleled in the whole history of nature.

ANTI-WHEAT TURN TO CHESS.

(From the Winchester Va. Republican.)

AGRICULTURAL SOCIETY.

MR. EDITOR:

Lucky Hit Farm, July, 1832.

It has been suggested that the time has arrived when an agricultural society would flourish—that the spirit abroad for the improvement of our domestic animals will greatly facilitate the establishment of so useful a society—that it requires only the zeal and co-operation of a few individuals to carry it into beneficial and permanent operation. The materials for raising and sustaining a society have been much multiplied and improved of late. The sons of those who were but little more than respectable labourers some years since, have become, through the progressive advancement of our country, and the happy influence of education, preparing their minds for the reception of useful truths, qualified to elevate their profession with their observation and intelligence. Are our farmers, then, still unprepared to cultivate the pleasures, as well as reap the mere pecuniary gains of agriculture? or need they doubt that the introduction of mind and science into their vocation, will increase their gains with its pleasures? Is it because they are so thoroughly acquainted, in all matters connected with and pertaining to, the greatest success of their profession, that they too often reject the knowledge and testimony of professional men eminently qualified to afford it? Rather should we not feel under great obligations to all classes of our brethren to aid us in bringing to perfection an art which divides its blessings amongst us all?

The improving morals and industrious habits of our citizens, each striving to promote the prosperity of either, and stimulated by a spirit of independence, and gospel truths and teaching, discouraging vice in every shape, through the exhortations, zeal and intelligence, of an indispensable portion of our people, bid fair to promote and sustain every kind of improvement, whether it be of the soil, mechanic arts, or in the various departments of science. Hence the importance of encouraging a variety of institutions, to collect and diffuse all the information touching their respective subjects.

One single instance of the sovereign importance of science, amongst the many, will be adduced here to illustrate the dangers and difficulties we may be led into for the want of it, through prejudice and want of information. The agricultural community, from one end of our country to the other, through the instrumentality of the American Farmer, is discussing the disputed points, of whether or no wheat, and other grains and grasses, turn to chess, as the saying is? Perhaps 99 out of 100 of our farmers declare they have no doubt of it—while, on the other hand, the well-educated naturalist, the botanist, the rigid examiner into the operations of vegetable nature, declare

* This was a misprint—it was written my mind.

with as much certainty the impossibility of the transmutation. They even say there is as much likelihood in a ram turning to a bull, or a hog to a horse. However unphilosophical it may be to suppose that wheat, &c. can turn to cheat at its pleasure, or by a variety of occurrences which farmers tell of, we must wait with patience; and give it a still farther trial. But what has been, and will continue to be, the consequence of this erroneous impression?—So long as farmers believe in this transmutation, as a natural operation, sanctioned of course by the God of nature, just so long will their energies fail them to eradicate it. But suppose, on the other hand, they believed their diligence could destroy it, like any other weed or pest?—The thing, in due time, could be accomplished. They now must consider it a decree of Providence, and submit to the evil with but little resistance.

Is there another case where the Author of nature, who instructs us to sow and to reap, promising a sure reward if the weeds and brambles are diligently removed, where the profits of our labor are suddenly converted into miserable pests? It seems as if it would be perplexing to the most pious mind to comprehend the consistency of this supposed operation in nature. We are encouraged by the wisdom and goodness of God, through the various evolutions and changes of nature, to exert ourselves to perfect every thing we are made stewards of.—Can it be that science, and the Author of its principles, do not harmonize? We should live to little purpose, as rational beings, if, in our investigations, we did not confirm the wisdom of the works of the Deity. How many are the grave and interesting subjects which might be discussed in a society of men devoted to improvements in agriculture?

Added to the usual stimulus of exhibitions, premiums, sales of stock, &c. &c., it is suggested that a library would not only increase the interest, add to the facilities, promote investigation, encourage communications and free exchanges of opinion and sentiment, but ensure the most substantial benefits, through a just pride of profession, in the accumulation of all the knowledge their own means could procure, or their friends present. A room appropriated to such object, of sufficient size, to be a deposit for models of all useful inventions or improvements in agricultural implements, drawings, &c. &c. where farmers could retire at their pleasure from the busy and unpleasant scenes of litigation, to spend a social hour, communicate or receive some useful suggestion, or specimen of their observation, research or toil.

These hints have been thrown out with a hope that this subject will be seriously espoused by those who will adopt, cherish and defend it, from a conviction of its deep and superior interest.

R. K. MEADE.

HORTICULTURE.

(From the London Horticultural Register.)

ON CULTIVATING THE VINE IN FRANCE.

EXTRACTED AND ABRIDGED FROM A TREATISE BY C. CHAPTAL, ON THE CULTIVATION OF THE VINE AND MAKING WINES.

The effects of Climate, Soil, Exposure, Seasons, and Culture, on the quality of the Wines.

CLIMATE.—All climates are not suited to the cultivation of the Vine. Though it seems to vegetate with vigor in northern climates, yet the fruit does not acquire a sufficient degree of maturity; and it is an invariable fact, that beyond the 50th degree of latitude, the juice of the grape does not attain that fermentation which converts it into a sound wine. In the north, grapes abound with the principles of putrefaction, but contain scarcely any element of spirituous fermentation; and the expressed juice of the fruit, having experienced the phenomena of fermentation, produces a sour liquor, in which there exists only that

proportion of alcohol necessary for interrupting the movements of putrid fermentation.

The Vine therefore, as well as other productions of nature, has climates peculiar to itself. It is between the 40th and 50th degrees of latitude, that this vegetable production can be cultivated with any degree of advantage. It is between these points that the most celebrated vineyards are found, and the countries richest in wines, such as Spain, Portugal, France, Italy, Austria, Styria, Corinthia, Hungary, Transylvania, and a part of Greece.

But of all countries, none perhaps presents so happy a situation for the Vine, as France; none exhibits so large an extent of vineyards, nor exposures more varied; and no country has such an astonishing variety of temperature. From the banks of the Rhine to the bottom of the Pyrenees, the Vine is almost everywhere cultivated; and in this vast extent the most agreeable and most spirituous wines are to be found. But though climate stamps a general and indelible character on its productions, there are certain circumstances which modify and limit its action; and it is only by carefully attending to what each of them produces that we can be able to discover the effect of climate alone. It is thus that we often find the different qualities of wine united under the same climate, because the soil, exposure, and cultivation, modify and mask the immediate action of that grand agent.

On the other hand, there are some Vine plants which do not leave us the choice of cultivating them indiscriminately in any latitude at pleasure. Soil, climate, exposure, and cultivation, ought all to be appropriated to their inflexible nature, as the least violation of this natural character essentially alters the product. Thus the Vines of Greece, transported to Italy, no longer produce the same wine; and those of Palermo, cultivated at the bottom of Vesuvius, have changed their nature. It is confirmed by daily experience, that the plants of Burgundy, transported to the south, no longer produce wines so agreeable and delicate.

The characters by which certain Vines are distinguished, cannot be re-produced in different sites; for this purpose the constant influence of the same cause is necessary, and, as it is impossible to unite them all, the consequence must be changes and modifications. We may therefore conclude that warm climates, by favoring the formation of the saccharine principle, must produce wines highly spirituous, as sugar is necessary to the formation of such wines. But the fermentation must be conducted in such a manner as to decompose all the sugar of the grapes, otherwise the result will be wines exceedingly luscious and sweet, as has been observed in some of the southern countries, and in all cases where the saccharine juice of the grapes is too much concentrated to experience a complete decomposition.

The cold climates can give birth only to weak and exceedingly aqueous wines, which have sometimes an agreeable flavor; the grapes in which scarcely any saccharine principle exists cannot contribute towards the production of alcohol, which forms the whole strength of wines. But on the other hand, as the heat from the fermentation of these grapes is very moderate, the aromatic principle is preserved in its full force, and contributes to render these liquors exceedingly agreeable, though weak.

SOIL.—The Vine grows every where, and if we could judge of the quality of it by the vigor of its vegetation, it is in fat and moist soil, well dunged, that it ought to be cultivated. But we are taught by experience that the goodness of wine is never proportioned to the force of the Vine. We may therefore say, that Nature, desirous to assign to each quality of soil a peculiar production, has reserved dry light soil for the Vine, and has entrusted the cultivation of corn to fat and well nurtured land.

"Hic segetes, illic veniunt felicius uvæ."

Strong argillaceous earth is not at all proper for the

cultivation of the Vine, for not only are the roots prevented from extending themselves in ramifications, as is the case in fat and compact soil, but the facility with which these strata are penetrated by water, and the obstinacy with which they retain it, maintains a permanent state of humidity, which rots the root, and gives to all the Vines, symptoms of weakness, which soon end in their destruction.

There are some kinds of strong earth which do not possess those hurtful qualities that belong to the argillaceous soil above mentioned. Here the Vine grows and vegetates in freedom; but this strength of vegetation still essentially hurts the good qualities of the grapes, which can with difficulty acquire maturity, and gives the wine neither spirit nor flavor. This kind of soil, however, is sometimes set apart for the Vine, because its abundance makes up for its quality, and because it is often more advantageous for the farmer to cultivate the Vine than to sow corn; besides, these weak but abundant wines, furnish a beverage suited to laborers of every class, and are attended with advantage in regard to distillation, as the Vines require little culture.

It is well known to all farmers that moist soil is not proper for the cultivation of the Vine. If the soil, continually moistened, is of a fat nature, the plant languishes in it, rots, and dies; on the other hand, if the soil be open, light and calcareous, the vegetation may be strong and vigorous, but the wine arising from it cannot fail to be aqueous, weak, and destitute of flavor. Calcareous soil, in general, is proper for the Vine; being arid, dried, and light, it affords a proper support to the plant. The water with which it becomes occasionally impregnated, circulates, and freely penetrates through the whole stratum; the numerous ramifications of the roots imbibe it at every pore; and in all these points of view calcareous soil is very favorable to the Vine. In general, wines produced in calcareous soil are spirituous, and the cultivation is so much the easier, as the soil is light and not strongly connected; besides it is to be observed that these dry soils appear exclusively destined for the Vine; the want of water, mold, and manure, oppose the idea of other cultivation. But there are some kinds of soils still more favorable to the Vine; those which are at the same time light and pebbly: the root easily forces itself through a soil, which by a mixture of light earth and pebbles, is rendered exceedingly permeable. The stratum of *galets*, which covers the surface of the earth, defends it from the raging ardor of the sun; and while the stem and the grapes receive the benign influence of that luminary, the root, properly moistened, furnishes the juice necessary for the labor of vegetation.

Volcanic earth also produces delicious wines. I have had occasion to observe in different parts of the south of France, that the most vigorous Vines, and the most capital wines were produced among the remains of volcanoes. The wines of Tokay, and the best wines of Italy, are the production of volcanic soil. The last Bishop of Aige, dug up, and planted with Vines, the old volcano of the mountain, at the bottom of which that ancient town is situated, and these plantations form at present one of the richest vineyards in that canton.

There are points in which the granite does not present that hardness and unalterability, which generally form the character of that rock: in these places it is pulverulent, and appears like dry sand. It is among these remains, that the Vine is cultivated in several parts of France, and the wine is of superior quality. The famous Hermitage Wine is produced in such a situation. The farmer, more anxious to obtain wine of a good quality than abundant vintage, will establish his vineyard in light pebbly soil, and not make choice of a fat rich soil, unless he intends to sacrifice quality to quantity.

EXPOSURE.—The same climate, the same cultivation, and the same soil, often furnish wines of very different qualities. We daily see some mountain, the

summit of which is entirely covered with vines, present in its different aspects, astonishing varieties in the wines it produces.

The most favorable exposure for the vine, is between the east and the south. Small hills, rising above a plain, intersected by a stream of pure water, give the best wine, but these hills ought not to be too close to each other. A northern exposure has at all times been considered as most fatal to the grapes;* they always remain harsh, sour, and destitute of the saccharine principle, and the wine must participate in these bad qualities. A south exposure is also not very favorable; the earth, dried by the heat in the day time, presents towards evening, to the oblique rays of the sun, an arid soil destitute of moisture. The sun, which by its position, penetrates then under the vine, and darts its rays upon the grapes, which have no longer any shelter, dries and heats them, ripens them prematurely, and checks the vegetation before the period of fullness and maturity has arrived.

SEASONS.—The influence of the seasons, on the vine, is so well known in all countries where vineyards are planted, that long before the vintage, the nature of the wine may be predicted. In general when the season is cold, the wine is harsh, and has a bad taste; when rainy, it is abundant, weak, and not at all spirituous: it is therefore destined for distillation, at least in the south of France, because it would be disagreeable to drink, and difficult to preserve.

The rains which come on when the vintage approaches, are always the most dangerous: the grapes have neither time nor sufficient strength to mature the juices, and they become filled with a liquid which holds in solution too small a quantity of sugar, for the produce of the decomposition, to be either strong or spirituous. The rains which fall when the grapes are increasing in size, are exceedingly favorable.

Winds are always prejudicial to the vine; they dry up the branches, the grapes and the soil; they produce, particularly in strong soil, a hard compact crust, which impedes the free passage of the air and water, and by these means maintain around the roots, a putrid moisture, which tends to corrupt them.

Fogs are also exceedingly dangerous to the vine; they are destructive to the blossoms, and do essential injury to the grapes.

"Though heat be necessary for ripening the grapes, giving them a saccharine taste and a good flavor, it would be erroneous to believe that its action alone, can produce every effect required. It can be considered only as a means necessary for maturation, which supposes that the earth is sufficiently furnished with the juices that ought to supply the materials. Heat is necessary, but this heat must not be exercised on dried earth, for in that case, it burns rather than vivifies. The good state of vines, and the good qualities of the grapes, depend, then, on a just proportion, a perfect equilibrium, between the water, which furnishes the aliment to the plants, and the heat, that alone can facilitate its maturation.

CULTURE.—The vine grows naturally in Florida, America, and almost every part of Peru. In the south of France, almost all the hedges abound with wild vines; but the grapes they bear, are always smaller, and though they come to maturity, they never acquire the exquisite taste of the grapes which are cultivated.—The vine, then, is the work of Nature, but

Art changes its products, by bringing the culture of it to perfection. The difference which exists at present, between the cultivated vine, and that which grows wild, is the same as that established by Art, between the vegetables of our gardens, and those of the same kind which grow naturally in the fields.—The soil, where the vine is planted, requires great care: it should often be dug up, but should not have the manure necessary to other plantations. It must here be remarked, that all those causes which powerfully concur to give activity to the vegetation of the vine, alter the quality of the grapes; and here, as in other delicate cases, the culture ought to be directed in such a manner that the plant may receive only scanty nourishment, if grapes of a good quality are required. The celebrated Olivier de Serres, says on this subject, that "by a public decree, dunging is forbidden at Gaillar, for fear of lessening the reputation of the white wines, with which the people of that district supply their neighbors of Toulouse, Montauban, Castres, and other places." There are some persons, however, who, in order to increase the crop, dung their vines, but they thus sacrifice the quality to the quantity. The dung most favorable to the vine, is that of pigeons or poultry: dung fed, or too putrid, should be carefully rejected, as it has been proved by observation, that the wine often contracts from it, a very disagreeable taste.

In the isles of *Rhé* and *Oleron*, the vines are manured with sea-weed; but the wine thence acquires a bad quality, and retains the peculiar odor of the plants. Chasseron observes, that the same plants decomposed into mold, manure the vine with advantage, and increase the quantity without injuring its quality. Experience has also taught him, that the ashes of sea-weed form excellent manure for the vine. This able agriculturist is of opinion that vegetable manure is not attended with the same inconvenience as animal manure; but he thinks, and with justice, that the former cannot be used with advantage, except when employed in the state of mold.

The method of cultivating vines on poles or props, ought to be regulated by the climate;—this method belongs to cold countries, where the vine has need of the whole heat of the sun. By raising them, therefore, on poles placed perpendicularly in the ground, the earth being uncovered, receives all the activity of the sun's rays, and the whole surface of the plant is completely exposed to this action. Another advantage of cultivating on props, is, that it allows the vines to be placed nearer to each other, and thus the produce is multiplied. But in warmer climates, the earth requires to be sheltered from the excessive heat of the sun; and the grapes themselves have need of being protected from its scorching rays; and to accomplish this, the vines are suffered to creep on the ground; they then, every where, form a covering sufficiently thick and close, to defend the earth and a great part of the grapes, from the direct action of the sun. But when the increase of the grapes has attained its maximum, and nothing is necessary but to bring them to maturity, the cultivators collect in bundles the different branches of the vine, uncover the grapes, and by these means facilitate the maturation. In this case, the same effect is produced as by propping; but recourse is had to this method only when the grapes are too abundant, or when the vines grow in a soil too fat or humid. In some countries, the vine is stripped of its leaves, which produces nearly the same effect; in others, the pedicle of the grape is twisted, to hasten the maturity, by checking the vegetation. The ancients, according to Pliny, prepared their sweet wines in this manner.

The method of pruning the vine has also a great influence on the nature of the wine. The greater the number of branches left to one vine, the more abundant the grapes, but the worse the quality of the wine.

We may consider the quality of the soil as the work of Nature; all the art consists in stirring it, and

turning it several times, at favorable periods; by these means, it is freed from noxious plants, and is better prepared for receiving water, and for transmitting it with more ease to the plant; the air can also penetrate to it with more ease; and thus all these conditions necessary for proper vegetation, are united.—When on account of some particular speculations, it is necessary to obtain a greater abundance of wine, and when the quality may be sacrificed to this consideration, the vines, in that case, may be dunged, more shoots may be allowed to the stems, and all the causes which can multiply the grapes, may be united.

I remain, yours, &c.

J. T.

(For the American Farmer.)

PEACH TREES.

In this neighborhood at present we have very few peaches, the blossom buds having been killed to the winter. This loss never occurs in this district, as I have remarked in a former article, except when the buds have been started by the warmth of the weather, either at the close of autumn, or sometime during the winter; and then some ten or fifteen degrees of frost may be sufficient to destroy them.

Owing to the great mildness and wetness of last autumn, several plants vegetated in my garden, which usually remain dormant till spring; and I had therefore supposed that the flower buds of the peach tree had also vegetated at that time. The following circumstances had been observed: Many peach trees on the high lands, several miles further back from the Cayuga lake than my garden, 400 or 500 feet more elevated, and consequently where it was several degrees colder in winter, are loaded with fruit; but the few blossoms which we had were chiefly on the tallest trees near the tops. It therefore appears that in low situations, the warmth was great enough to start the buds; and that it was very sensibly greater near the ground, at this place, than at the tops of the trees, or on the high lands further back from the lake.

None of those circumstances however, will determine whether the buds were started in autumn, or during the great thaw in the first month; the following facts, which have been more recently observed, are more to this point: one of my neighbors has a low peach tree which had been covered up in part by a snow drift, and that part is loaded with fruit. The same thing occurred to the lowest branch of one of my peach trees with the same result. We must, therefore, conclude that these branches lay dormant in the snow, while the warm air above them caused the other buds to vegetate; and consequently that this happened in the winter.

To prevent peach buds from starting in winter, or too early in spring, it has been proposed to pile snow or ice round the roots; but from the above circumstances the plan must appear futile.

D. T.

(From the London Horticultural Register.)

ON THE CULTIVATION OF THE CHRYSANTHEMUM INDICUM.

December, 1831.

I observe in your number for November, that this is one of the flowers upon the best mode of cultivating which, you purpose to give one or more papers. Being an admirer of the flower, as it enlivens the dreariness of winter, I have long since cultivated it; and lately, by the mode described in London's "Encyclopaedia of Gardening," article 6475; but the daily trouble of watering, for five months in the year, with liquid manure, although there recommended as "simple," "elegant," &c. is troublesome, and most inelegant.

The last two years, the continual rains neutralized the benefits of the liquid manure, by washing it away, and I consequently had a bad show of bloom; but observing some of the old stocks, which had been put in a bye-place, bloom abundantly, although never at-

* NOTE.—The general principles, in regard to the influence of exposure, admit of many exceptions.—The famous vineyards of Epomei and Vorsenai, in the mountain of Rheims, are fully exposed to the north, in a latitude so northern for vines, that it is in those places where the region of the vine suddenly terminates under that meridian.

The vineyards of Nuits and Beaune, as well as the best of Beaugenci and Blois, lie to the east; those of Loire and Cher, lie indiscriminately towards the north and south. The excellent hills of Saumur, face the north; and the best wines of Angers, are produced from vines which grow in all exposures.

tended to, I was induced to seek for the cause, which I soon concluded to be, from the roots having found their way into the soil beneath; I, at once, determined to avail myself of the circumstance, this year.

In the month of April, I took cuttings, and placed them in a greenhouse, (a cucumber-frame would do) where, in about three weeks, I found them well rooted; they were then potted, some one, and others two or three in a pot, about five inches across, filled with light rich mold. Having provided a piece of rich ground, in a damp situation, the same was dug a spit deep, and a trench made; into which, the pots, as well as the old stocks, were put, two inches apart, up to their rims, the trench filled up, and some half-rotted dung put over the pots, to the depth of four inches, in order to keep the ground moist. Here they remained until the 22d of October, without being once watered; when the early-flowering ones being in full blossom, were removed to the greenhouse,—and by the 5th of November, in consequence of the appearance of frost, the whole were so removed. The roots that had found their way into the soil, (which they had very abundantly) were cut off, and I find that by keeping a pan full of water to each pot, so far from their durability being less, they have remained longer in bloom, than any I have before flowered, which I attribute, in a great measure, to the grossness of the foliage,—a few only of those first put into the greenhouse, showing a disposition to fade, on the 25th of November. I need hardly say, that their luxuriance has arisen from the great extent of rich soil, into which the roots were able to find their way. I adopted the same mode with the class of exotic Salvias, and my greenhouse now presents an uninterrupted scene of brilliant flowers.

AN ANATEUR GARDENER.

MISCELLANEOUS.

(From Howitt's Book of the Seasons.)

"Lift up your eyes and look on the fields; for they are white already to harvest."—John iv. 35.

AUGUST.

Around him ply the reaper band,
With lightsome heart and eager hand,
And mirth and music cheer the toil,—
While sheaves that stud the russet soil,
And sickles gleaming in the sun,
Tell jocund Autumn is begun. PRINGLE.

The grand feature of this month is CORN HARVEST. It is a time for universal gladness of heart. Nature has completed her most important operations. She has ripened her best fruits, and a thousand hands are ready to reap them with joy. It is a gladdening sight to stand upon some eminence and behold the yellow hues of harvest amid the dark relief of hedges and trees, to see the shocks standing thickly in a land of peace; the partly reaped fields—and the clear, cloudless sky, shedding over all its lustre. There is a solemn splendor, a mellowness and maturity of beauty thrown over the landscape. The wheat crops shine on the hills and slopes as Wordsworth expresses it "like golden shields cast down from the sun." For the lovers of solitary rambles, for all who desire to feel the pleasures of a thankful heart, and to participate in the happiness of the simple and lowly, now is the time to stroll abroad. They will find beauty and enjoyment spread abundantly before them. They will find the mowers sweeping down the crops of pale barley every spiked ear of which, so lately looking up bravely at the sun, is now bent downward in a modest and graceful curve, as if abashed at his ardent and incessant gaze. They will find them cutting down the rustling oats, each followed by an attendant rustic who gathers the swath into sheaves from the tender

green of the young clover, which, commonly sown with oats to constitute the future crop, is now showing itself luxuriantly. But it is in the wheat field that all the jollity and gladness, and picturesqueness of harvest is concentrated. Wheat is more particularly the food of man. Barley affords him a wholesome but much abused potato;—the oat is welcome to the homely board of the hardy mountaineers, but wheat is especially, and every where the "staff of life." To reap and gather it in, every creature of the hamlet is assembled. The farmer is in the field, like a rural king among his people—the laborer, old or young, is there to collect what he has sown with toil, and watched in its growth with pride; the dame has left her wheel and her shady cottage, and with sleeve defended arms, scorns to do less than the best of them;—the blooming damsel is there, adding her sunny beauty to that of universal nature; the boy cuts down the stalks which overtop his head; children glean amongst the shocks; and even the unwalkable infant, sits propt with sheaves, and plays with the stubble, and

With all its twined flowers.

Such groups are often seen in the wheat field as deserve the immortality of the pencil. There is something too about wheat harvest which carries back the mind and feasts it with the pleasures of antiquity.—The sickle is almost the only implement which has descended from the olden times in its pristine simplicity—to the present hour neither altering its form, nor becoming obsolete amid all the fashions and improvements of the world. It is the same now as it was in those scenes of rural beauty which the scripture history without any labored description, often by a single stroke, presents so livingly to the imagination; as it was when tender thoughts passed

Through the sad heart of Ruth, when sick for home,
She stood in tears amid the alien corn;

When the minstrel-king wandered through the solitudes of Paran, or fields reposing at the feet of Carmel; or "as it fell on a day, that the child of the good Shunamite went out to his father to the reapers. And he said unto his father, My head, my head! And he said to a lad, Carry him to his mother. And when he had taken him, and brought him to his mother, he sat on her knees till noon, and then died." 2 Kings, c. iv. 18—20.

Let no one say it is not a season of happiness to the toiling peasantry; I know that it is. In the days of boyhood I have partaken their harvest labours, and listened to the overflows of their hearts as they sate amid the sheaves beneath the fine blue sky, or among the rich herbage of some green headland beneath the shade of a tree, while the cool keg plentifully replenished the horn, and sweet after exertion were the contents of the harvest-field basket. I know that the poor harvesters are amongst the most thankful contemplators of the bounty of Providence, though so little of it falls to their share. To them harvest comes as an annual festivity. To their healthful frames, the heat of the open fields, which would oppress the languid and relaxed, is but an exhilarating and pleasant glow. The inspiration of the clear sky above, and of scenes of plenty around them, and the very circumstance of their being drawn from their several dwellings, at this bright season; open their hearts and give a life to their memories; and many an anecdote and history from "the simple annals of the poor" are there related which need only to pass through the mind of a Wordsworth or a Crabbe, to become immortal in their mirth or woe.

Birds are now seen wandering about in large flocks, having completed all their summer cares, and now enjoy the range of earth and air in one long holiday, till their companies shall be thinned by gunpowder and winter weather.

This glowing month frequently presents splendid appearances in the highly electric clouds. In August, 1827, I was walking in the country early in the morn-

ing. The sky was perfectly clear till the sun rose above the horizon. The country was then gradually obscured by a thick haze, which about an hour afterwards soared steadily but rapidly aloft, leaving the landscape as clear as before, but filling the sky with an unbroken expanse of motionless cloud. I returned in the evening; the heavens and earth exhibited a magnificent spectacle. The landscape possessed a striking lustre and clearness, and was brought, as it were, immediately to the eye by that effect of transparent vapor which often precedes thunderstorms.—The vault of heaven was strewn with what are called horse-tail clouds, some white, drawn out like webs of some light and transparent texture, suddenly seized and tossed about by a giant hand, and curling up at their extremities like tempestuous and foamy billows. In the west the setting sun cast up his lines of radiating beams to the zenith, which appeared to be answered in the east by corresponding radiations of black lines, which crossed the clouds directly into the higher heavens. These vanished with the sun. The heat of the atmosphere during this time was intolerable, and the evening terminated by a night of tremendous thunder and lightning.

Towards the end of the month symptoms of the year's decline press upon our attention. The morning and evening air has an autumnal freshness; the hedge-fruit has acquired a tinge of ruddiness; the berries of the mountain-ash have assumed their beautiful orange hue; and swallows twitter as they fly, or sit perched in a row upon a rail, or the dead bough of a tree. The swift has taken its departure. That beautiful phenomenon, the white fog, is again beheld rolling its snowy billows along the valleys; the dark tops of trees emerging from it as from a flood.

Hops are gathered this month. We cannot boast of our vineyards; but we question whether Italy itself can show a more beautiful or picturesque scene than an English hop-garden in picking time. The hops, which have luxuriantly climbed to the very tops of their poles, hang on all sides their heavy heads of scaly flowers in festoons and garlands, and the groups of pickers, seated in the open air beneath the clear lustre of an autumnal sky,—age in its contentment, and youth in its joy,—and the boys and girls, which carry to them the poles, covered with all their nodding honors, may match, for objects of interest, the light forms and dark eyes of Italy.

Why is barley freed from its bran for domestic purposes?

Because the bran contains a resin of a purgative, and even acrimonious nature. Thus, Scotch, French, or pearl barley, is merely common barley, kiln-dried, and deprived of its husks or bran by a mill; the grains are then rounded, and cut down smaller, and lastly, whitened in their own meal.

Why should rice be kept in large piles or quantities?

Because the heat will not then allow insects to live in the inside of the heap; consequently, the great wastage takes place at the outside surface. Keeping rice, therefore, for any length of time, either in small piles or in bags, is ruinous.

Why is lemon-juice altered by keeping?

Because the mucilaginous matter which it contains is very soon altered by spontaneous decomposition.

Why do seeds grow in sand, or on moistened flannel?

Because of the air, warmth, and water which they receive, the use of soil being quite secondary to the growth of seeds generally; although the soil at length becomes the proper means, by which alone the plant can arrive at perfection.

Why is ginger beer the most refreshing of all summer drinks?

Because it retains its carbonic acid for a length of time in the glass; and ginger has this remarkable property of occasioning a high, close, creamy head upon all effervescing liquors.—*Donovan.*

• The union of two or three different colours, produces a most pleasing appearance.

Prices Current in New York, September 8.

Beeswax, yellow 18 a 20. Cotton, New Orleans. 10 1/2
a. 13; Upland, 9 1/4 a 11 1/2; Alabama, 9 1/4 a 11 1/2. Cotton
Bagging, Hemp, yd. 13 a 21 1/2; Flax 13 a 14 1/2; Flax, Amer-
ican, 7 a 8. Flaxseed, 7 bushel, clean —; rough —;
Balt. 11wd-st. — a 7.00; Rh'd. city mills 7.25 a —;
country, — a 6.25; Alexandria, 6.50 a 6.62; Freder-
icksburg a —; Petersg. new, 6.50 a 6.75; Rye Flour,
4.50 a —; Indian Meal, per bbl. 3.37 a 3.50 per hhd.
16.00 a —; Grain, Wheat, North, 1.20 a —; Vir-
1.28 a 1.32; Rye, North, 70 a 76; Corn, Yel. Nor. 76 a
77; Barley, — a —; Oats, 5th and North, 41 a 50;
Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; Pro-
visions, Beef, mess 9.50 a 10.75; prime 10.00 a 5.75
cargo — a —; Lard, 7 1/4 a 9 1/2; Pork, mess, bbl.
13.50 a 14.00; prime 10.75 a 11.50.

PLANTATION FOR SALE.

The Subscriber offers for sale the plantation whereon
he lately resided in Sassafras Neck, Cecil county, Ma-
ryland, one mile below Rose Hill, the seat of General
Forman, and about fifteen miles below the mouth of
the Chesapeake and Delaware Canal. It contains eight
hundred and eight acres, of which about five hundred
and fifty acres are arable, and for the most part in a
high state of cultivation. The wood and timber abundant
and fine. The quality of the soil is first rate, and
little or none of the tract is waste. Its form is an ob-
long square, and is bounded on the South by Sassafras
river, and on the north by Ponds creek, which may be said
to be enclosed on two sides by water. On the tract is
Ordinary Point, one of the most celebrated points for
duck shooting in Maryland, especially for canvas
bags. The situation is high, and commands a fine view
of Turkey Point and the head waters of the Chesapeake
bay, and is about mid-way between the Philadelphia,
Brandywine and Baltimore markets, and has con-
venient landings for shipping the crops to either market.
For the growth of Indian corn, wheat, timothy and clover,
this farm is not surpassed on the Eastern Shore of
Maryland, and as such offers the highest inducements
to the farmer, the grazier, and the sportsman.

The improvements are a comfortable dwelling house,
and other suitable buildings, a young apple and peach
orchard, in full bearing, and a choice collection of
other fruits. It will be sold low and the terms of pay-
ment made easy. To the capitalist it is an object for an
investment, as the rents received will average per an-
num seven per cent. on the sum that would command
it.

For further particulars apply to Levin Gale, Esq.
Elkton; James Rogers, Esq. New Castle, or to Wil-
liam Cooke, Esq. Baltimore. Captain Craddock,
residing on the place, will show it to persons desiring to
see it. O. HORSEY,

Sept. 7. St. Petersburg, Frederick Co. Maryland.

THRESHING MACHINES.

The Subscriber would inform the public that he has
obtained the patent right for FOX & BORDLAND'S
PATENT THRESHING MACHINE, for all the State
of Maryland, with the exception of Washington, Fred-
erick, and Montgomery counties, and also for the lower
counties of the State of Virginia that lie contiguous
to Maryland. These machines possess several and very
important advantages over all other machines, which
have been introduced for threshing. The concave bed
in this machine is placed upon springs, which enables it
to recede from the cylinder when over fed or, any
hard substance gets in this, with the peculiar form of
the spikes and the manner of setting them, renders it
impossible to break or injure the machine, and at the
same time enables it to perform the work with about
one-half the power required by other threshers. It can
be readily set to shell corn with great facility, and also
to break the corns sufficiently fine to feed stock; it is
likewise very simple, easily managed, and the price
reasonable, say from sixty to eighty dollars, according
to size, or including the horse power complete, from
one hundred and sixty, to two hundred dollars. To
those counties referred to in Virginia, he offers the pa-
tent right for sale to include a machine with each coun-
ty right. All communications by mail, post paid, will
meet prompt attention. J. S. EASTMAN,
Pratt, near Hanover street, Baltimore.

STRAWBERRY PLANTS, TURNIP SEED, &c.

The subscribers are now prepared to deliver to order,
Strawberry Plants of the most approved kinds, which
will be packed so as to warrant their safe arrival at
any part of the United States. The months of August
and September being the most favorable season for
planting, it will be well for those who wish to
purchase, to give their orders early, and by care in
planting, with an occasional watering, fine plants may
be produced.

The kinds now on hand are, large Early Scarlet;
large dark old Pine; French red Alpine and Faulkner's
late Scarlet, at 25 cents per dozen, or \$1 per hundred;
large dark musk Hawthorns; new black musk do.; white
monthly; scarlet Lima; Dawnton, Wilmot's superb and
Roseberry, at 50 cents per dozen, or \$2 per hundred.

Our nursery is rapidly progressing towards the
point destined at its commencement. We have now
closely planted about 13 acres with fruit and ornamen-
tal trees, shrubs and vines.

TURNIP SEED of various kinds and many other
fresh seeds, for summer and fall planting.

SINCLAIR & MOORE,
Aug. 10. Grant street, near Pratt-st. wharf.

BLOODED HORSES, BROOD MARES, AND COLTS FOR SALE.

At the residence of the late Alexander F. Rose, Esq.
in Stafford County, Vir.

No. 1. ch. m. FLORA, fourteen years old, out of
Miss Dance, by Ball's Florizel.

As the character of Florizel is so generally known,
and ranks him among the most distinguished horses of
his day, it is deemed only necessary to say, he was the
sire.

No. 2. b. m. PET, ten years old, out of Miss Dance,
by St. Tammany.

St. Tammany, the sire of Pet, was full brother to
Florizel, and bred by Maj. John Roberts, of Culpeper,
who purchased him sucking colt, and when only
three days old, gave for him 100 guineas. When a
colt he was put in training by Maj. Roberts, but an
accident occurring, was withdrawn from the turf. In
point of performance and appearance, his judicious
owner esteemed him at that age as promising to be
fully equal if not superior to his brother Florizel.

Miss Dance, the dam of these two mares, was by
Reebuck, was bred by Col. Dance, of Chesterfield, and
is well known to have been one of the finest mares in
Virginia. When twenty-three years old, and owned
by Maj. Roberts, \$500 was offered for her and refused.
The dam of Miss Dance was by Independence, grand
dam by the imported horse Centinel, or Flinnap, g-
grand dam by the imported horse old Janus. Reebuck
was by the imported horse Suviper, son of Mr. Beaver's
Great Driver; his dam by the imported horse
Bagazet, son of the Earl of March's old Bagazet, son
of the Godolphin Arabian.

These two mares are now in foal by Carolinian,
a distinguished son of Sir Archy; and out of them are the
following colts:

1. a ch. f. three years old, out of Flora, by Lafayette.
2. a ch. f. two years old, out of Flora, by Contention.
3. a b. f. two years old, out of Pet, by Contention.
4. an iron grey, one year old, out of Pet, by W. R. Johnson's Medley.

No. 3. ch. m. Virago, eight years old, by Wildair,
dam by the imported horse Hamilton, grand dam by
Spread Eagle. Wildair was by Ajax, and bred by Col.
R. Walker, of Amherst, his dam by Knowsley, grand
dam by Hightlyer, g. grand dam by old Wildair, g. g.
grand dam by Assal, g. g. g. grand dam by Aristotle,
g. g. g. grand dam the celebrated running mare
Hexisford.

Out of Virago, is a fine two year old filly, by Con-
tention, and she has now by her side a beautiful bay
filly, by Governor Barbour's imported horse Young
Truffle, and is now in foal by Carolinian.

No. 4. ch. m. Nettle, seven years old, full sister to
Virago, has now by her side a fine colt, by Young
Truffle, and is now in foal by Carolinian.

No. 5. ch. m. Cora, six years old, full sister to Vir-
ago and Nettle, and in foal by Carolinian.

Out of Cora, is a beautiful ch. f. one year old, by
Contention.

Application to be made to the Executors of Alexan-
der F. Rose, deceased, Fredericksburg, Virginia.

Aug. 10. 2ms

TALL MEADOW OAT GRASS SEED.

Just received and for sale at the American Farmer
Office and Seed Store a quantity of Tall Meadow Oat
Grass Seed of this year's growth. Price \$2.50 per
bushel. Address, I. IRVINE HITCHCOCK.
ORCHARD GRASS SEED—Fresh, at \$2.25 per
bushel, for sale as above.

STRAWBERRY PLANTS in variety, and RHU-
BARB PLANTS, for sale at the American Farmer Of-
fice and Seed Store. [For particulars see No. 25.]

ORCHARD GRASS SEED.

100 bushels Orchard Grass Seed, just received and
for sale by SINCLAIR & MOORE.
Sept. 7.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—A very considerable decline
will be noticed in flour and wheat. The demand for the
former having measurably ceased, the price of both
have declined as a natural consequence. The wagon
price of Howard street flour is \$5.75. In other articles
there is no material change. Our quotations of wool
are made from actual sales; there is considerable busi-
ness doing in the article.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do
ground leaf, 5.00 a 9.00;—Crop, common, 3.00 a
5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00;
wrappery, suitable for segars, 6.00 a 15.00; yellow and
red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow,
18.00 a 26.00.—Virginia, 4.00 a —.—Rappahannock,
3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspec-
tions of the week comprise 417 lbs. Md.; and 56
hhd. Ohio—total 563 hhd.

Flour—best white wheat family, \$7.25 a 7.50; super
Howard-street, — a —; city mills, 6.12 a —.
Susq. — a —; CORN MEAL bbl. 3.50; GRAIN, best
red wheat, \$1.05 a 1.07; white do — a —; Susq. —
—CORN, white, 65 a 66; yellow 65 a 66; Rye, 70 a —
—OATS, — a 35.—BEANS, 75 a 80.—PEAS, 65 a 70—
CLOVER-SEED — a —TIMOTHY, — a —.—OR-
CHARD GRASS 2.00 a 2.25.—Tall Meadow Oat Grass
— a —.—Herd's, 75 a 87 1/2.—Lucerne — a 37 1/2 lb.—
BARLEY, FLAXSEED 1.50 a 1.62.—COTTON, Va. 8a10.—Lou-
9 a 13.—Alab. 8 a 11 1/2.—Tenn. 8 a —; N. Car. 8 a 10—
Upland 8 a 11 1/2.—WHEAT, hhd. 1st p. 30 a —; in bbls.
32 a 35.—WOOL, Washed, Prime or Saxony Fleeces 45
a 50; American Full Blood, 35 a 42; three quarters do.
35 a 38; half do. 30 a 35; quarter do. 28 a 30; common 25
a 28.—Unwashed, Prime or Saxony Fleeces, 25 a 30;
American Full Blood, 22 a 25; three quarters do. 20 a
23; half do. 18 a 20; quarter do. 16 a 18; common, 16 a 18
Hemp, Russia, ton, \$215 —; Country, dew-rotted, —
a 7c. lb. water-rotted, 7a 8c.—Feathers, 36 a 37; Plas-
ter Paris, per ton, 4.12 1/2 a 4.25, ground, 1.50 a — bbl.
Iron, gray pig for foundries per ton 38.00 a —; high
pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton,
72.50 a 80.00.—Prime Beef on the hoof, 5 00 a 5.50—
Oak wood, 3.37 a 3.75; Hickory, 4.50 a 5.00; Pine, 2.25
a 2.75.

CONTENTS OF THIS NUMBER.

Editorial; To our Subscribers; Bedford Breed of
Hogs—A Remarkable Flower—Foreign Markets—Ap-
plication of Geology, as the Basis of the Science of
Agriculture, by Professor A. Eaton; Soils, Fertility of
Soils, Classification of Soils, Geological Analysis of Soils,
Formula for Geological Analysis—On the Economical
Management of Farm Yard Manure—On Chess—R. K.
Meade on the Benefits of Agricultural Societies—Method
of Cultivating the Vine in France; the effects of
Climate, Soil, Exposure, Seasons and Culture on the
Quality of the Vines—Peach Trees Injured by Frost—
On the Cultivation of the Chrysanthemum Indicum—
Reflections on the Month of August, by Howitt—Prices
Current of Country Produce in the New York and Bal-
timore Markets—Advertisements.

EDITED BY GIDEON B. SMITH.

Published every Friday, at the old office, basement of Barnum's City
Hotel, by I. IRVINE HITCHCOCK.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, SEPTEMBER 21, 1832.

SULTANA GRAPES.—We have to acknowledge the receipt of a couple of bunches of the Sultana grape from Dr. Monkur of this city. They are superior to any Sultana we ever saw, being perfectly ripe, and free from the slightest appearance of rot. The bunches weigh a pound each within a few grains; the berries almost transparent, *free from seeds*, and of delicious flavor. It is pretty generally known that it is very difficult to make the Sultana mature its fruit in this country. Indeed while we have been familiar with the vines of this variety for many years, we never before saw the fruit in perfection. We are greatly obliged to Dr. Monkur for affording us an opportunity of examining this delicious grape. The grapes can be seen at the Farmer office.

AUTUMN STRAWBERRIES.—We know not whether the following fact is common or not, but it certainly is a new thing to us. In a field containing great quantities of common "old field" strawberry plants, which bear abundantly every spring, we have found about a dozen plants now (20th September), just ripening their fruit. The plants differ in no respect from the common ones. These plants are all situated within a few feet of each other, and on carefully examining the field, we can find no others now in fruit or flower. The questions that naturally suggest themselves are, whether these plants have been forced by some peculiarity of the season to bear a second crop of fruit, as is often the case with apples and cherries, or retarded in their first crop; or are they a new variety produced from seed, with the peculiar and valuable property of bearing fruit in autumn? None of the plants appear to have borne fruit this year, nor are there any runners as yet visible, either old or young. It would seem that the circumstance is not caused by any peculiarity of the season, as these plants are surrounded thickly with others which show no signs of such an effect. We shall carefully transplant them for the purpose of ascertaining whether this be a permanent character, or a mere vagary of nature.

STATE OF AGRICULTURE—ALABAMA.—A correspondent at Big Swamp, Lowndes county, Alabama, gives us the following hints as to the state of agriculture in that part of Alabama:—

"Crops of corn are very abundant; the prospect of cotton in this section of the state was never more flattering. The planters have got much in the spirit of raising wheat; but the severe winter, late seeding, and careless and slovenly manner of putting in, have caused the crop to be very small. Some few have cultivated the sugar cane for several years, but in a very small way; one in this county made a clear profit of \$100 per acre. There is scarcely a farmer that does not plant the whole of his cornfields with *cow-peas*, which yield very abundantly; and after gathering the corn, and peas enough for winter use, they put their stock on them, and their hogs become very fat in a short time. Every one cultivates the sweet potato, from ten to three thousand bushels annually. The community here are a very industrious people, but most of them hold to ancient prejudices with a tenacity that is truly astonishing."

We have a two fold motive in publishing the above extract—that of disseminating the information it contains, and of giving our correspondents in all parts of the country a hint, that similar sketches would be very acceptable from them. Let every subscriber, when he sends us his annual subscription money, or writes us on any other business, give us a sketch of the actual state of agriculture in his neighborhood. The above sketch may be taken as a *sample*, if need be, with such enlargement and additions as may be deemed

proper. The object is to inform the whole agricultural community of the actual condition and progress of the science in every section of the country. The advantages of such information must be apparent to all. It will enable different sections to compare the results of their several systems, and to introduce such amendments and improvements in their own as the more profitable ones may suggest. Such sketches may be enlarged upon indefinitely, at the convenience of the writers, by the addition of modes of cultivation, average quantities of crops, descriptions and extent of stock—horses, cattle, sheep, hogs, &c.—kept, with the general modes of management. If all our subscribers would act upon this suggestion, we do not hesitate to say that each would receive in return, a mass of information that would pay him a hundred fold for his trouble.

(From Poulson's American Daily Advertiser.)

THE FARMER OF MOUNT VERNON.

Every person, not profoundly ignorant of his country's annals, and who is at all conversant with the characters of the leaders in the revolution which gave existence to these United States, must have been in the habit of contemplating General WASHINGTON as an eminent agriculturist, as well as the man "*first in war, first in peace, and first in the hearts of his countrymen.*" But few, however, could have supposed it possible that in the midst of public avocations of more importance than ever another man was engaged in, General WASHINGTON could have bestowed a particular attention to the details of husbandry; and have superintended and directed complex operations on several farms, at the same time that he presided over the destinies of a rising empire, in a novel, arduous, and hazardous career of military and political experiment. The following, copied from a "Letter from Mr. Jared Sparks, to the Hon. Judge Story," will present new motives, and fresh incentives, to every cultivator to imitate the virtues, and venerate the name of WASHINGTON.

AGRICULTURAL PAPERS.

There was no station in which Washington took more delight, or the duties of which he discharged with more zeal and activity, than that of a practical farmer. His achievements in this walk, were prodigious. It may fairly be questioned whether any other individual in the country, not excepting the most industrious and enterprising, who has been devoted to this pursuit alone, has ever accomplished so much.—He was commander of an army, and at the head of a nation for a few years only at a time, but a day never passed in which his farm was out of his mind. During the whole war, he was planning improvements, directing them, and often writing letters of minute instructions to his manager. While President of the United States, it was his standing custom to write weekly, and receive weekly returns, in which he required great particularity and exactness in specifying occurrences, and the employment and progress of the laborers. I have before me a volume of press copies of letters, written in one year, during the Presidency, to his manager and overseers. Some of them extend to several pages, and they average more than one a week. They are written in his own hand, with its usually fair and regular character, and bear every mark of having been as much studied in expression and style as any of his compositions. In some cases, and probably in most, they were written and copied out by himself, before the press impressions were taken.

Such was his habit for years, amidst the burden of his public cares. There is also before me a curious agricultural document, dated four days before his death. It is a pamphlet of 24 folio pages, written in a close hand, containing instructions to his manager for the cultivation of three farms on the estate of

Mount Vernon, the following year. Each farm was divided into lots which were numbered. In the pamphlet very full instructions are given how to cultivate *every lot* in the three farms during the next year, stating the crops, with remarks on the soil, the products of former years, and the results of former experiments. Washington died, you will recollect, in the middle of December, and this pamphlet, drawn up evidently with much labor and reflection, was already prepared to be handed to the manager, at the beginning of the year, prefaced by a letter of general directions, on the importance of method and forethought in farming operations, and this, notwithstanding he was himself to be on the plantation, and exercise a daily supervision.

These instances are mentioned only as examples; they indicate the habit, and it is unnecessary to add more. For a time, he kept an agricultural journal, and was engaged in experiments on a rotation of crops, noting down, for a series of years, the crops of each lot, with remarks on the comparative success of different rotations. He was at much pains to stock his farms with the best breeds of animals, and his grounds were adorned with rare and curious trees and shrubs, collected from various parts of the United States, and from foreign countries. His correspondence with Sir John Sinclair, Mr. Anderson, and Arthur Young, on agriculture, has been printed. It is not my intention to select much for publication under this head, but such papers will be included, and such illustrations appended, as will exhibit in their due proportions the character of Washington on his farm, and his attention to the humble concerns of life.

(From Abbot's Letters from Cuba.)

VEGETABLE CURIOSITIES IN CUBA.

Nothing is more common than to see bahuaca, (bejuco,) or vines of many species, running with luxuriance over the trees, great and small, of the forest. Many of them commence their growth, and fasten their roots in the top of a tree, and thence run downwards and fasten themselves again in the ground.—They are sometimes seen hanging above, and waving in the air below, without any fixture to the ground. I have seen a vine as big as my finger, fastened above, and, two yards before it came to the ground, sending out a dozen filaments, evidently intended to fix in the ground as roots, though they had not yet been able to reach it. These vines are everywhere seen in the woods, and often symmetrical arbors, circular or oval, that would be beautiful in the most tasteful gardens. But of all sights, the most amusing, and that continually to be seen, is *The Scotchman hugging the Creole*, as it is very significantly called. This often takes place on the loftiest trees of the forest,—especially the ceiba. The bahuaca, (bejuco) descends from the top, and rises from the ground, and winds round the trunk of the tree, and by its many convolutions literally webs over the trunk, grows into itself, branch with branch, and looks like an immense serpent wreathing about its victim. The effect is ever the same. The creole, the original tree, is smothered in the hostile embrace. It commences a premature decay, rots, falls by piecemeal, becomes a mere skeleton, and finally disappears, leaving the parasitical bahuaca, changed in its very nature from vine to tree, in prosperous possession of the ground. The trunk of the murderous tree near the ground is irregular, open-worked, but vigorous and healthy, with a top running high, and sometimes with branches from two feet to three and a half in diameter. At the ground, I have measured a space of from six to seven feet between the thrifty parts of the upstart tree. These parts become united twenty or thirty feet from the ground, in a solid trunk, and send out branches two feet in diameter. The leaf of the new tree is not always the same, but the limb when cut, always sends out a milky sap.

AGRICULTURE.

(From the Southern Agriculturist.)

ACCOUNT OF AN AGRICULTURAL EXCURSION IN THE SPRING OF 1832.

BY THE EDITOR.

(Continued from page 187.)

We left "*Campvere*" on the morning of the 16th, and reached "*Poshee*" the same day in time for dinner. Our kind host having offered to join us in our excursion, we determined to commence our visits the next day; and here we cannot refrain from expressing our thanks to Dr. Ravenel, for his great attention in accompanying and assisting us in our inquiries. We certainly could not have got on so well without his friendly aid, nor would the object of our visit have been near so well accomplished.

We remained about three weeks in the parishes of St. John's (Berkley), and St. Stephen's, and in that time visited the plantations of the following gentlemen, Col. Thomas Porcher, Major Samuel Porcher, Messrs. Daniel Porcher, Thomas Porcher, jun., S. Mazyek, Daniel Broughton, Isaac Porcher, Joseph Palmer, James Gaillard, S. G. Deveaux, and John Ravenel, besides passing through several others.—"*Poshee*" continued to be our head-quarters, from which we made excursions in every direction. All the information we shall now give, has been derived from some one of these gentlemen, or others met at their houses. It is unnecessary for us to enter into the details of each plantation we visited, as the modes of culture on each assimilates in a great measure.—There is not generally so great a difference in the management of the crops of neighbors, as of different neighborhoods, or different sections of country. We, therefore, propose giving, in the first place, an account of the general mode of treating the several crops in these two parishes, and at the same time noticing any difference of opinion which may exist in regard to any of the operations. We shall afterwards notice such things as fell under our observations, and as may be deemed proper.

The plantations we visited, (with one exception,) are situated either in what is called middle St. John's or upper St. John's. The soil of the former is what might be termed a light sandy loam, resting on a substratum of clay, and is considered well adapted to the culture of cotton. There is also a considerable quantity of swamp land, a large portion of which remains uncleared: that which is cleared, is cultivated in corn and oats, and is very productive of these crops. The soil of upper St. John's is much more sandy, and at one time was considered more valuable for the production of cotton; but, having been long under cultivation, without means being resorted to (until of late) to preserve its fertility, and being moreover of a lighter texture, it has become more exhausted, and being more thickly settled, the same facilities for manuring are not now enjoyed by the planters of this section, as are, by those of the middle section, consequently it has not preserved its relative standing.

The crops planted in these parishes are cotton, corn, potatoes, peas, oats, groundnuts (occasionally,) and rice in sufficient quantities for home consumption. Cotton is the only crop cultivated for market, the black-seed or long staple is almost altogether planted; on some plantations, however, a small quantity of the green-seed or short staple is cultivated. This being decidedly the most important crop, we will take it up first in order, and give such information as we have collected relative to its management in these parishes.

ROTATIONS—There is very little rotation, if any, adopted in these parishes, such fields as are considered best suited to the growth of the different crops are selected, and if manure can be applied, they are cultivated year after year in the same, and where the application has been with a liberal hand, so far from deteriorating, they have improved. Col. Thomas

Porcher, pointed out a field to us which had been cultivated for fifteen years in succession, each year manured, and he then considered it as the most productive he had, having been decidedly improved, by the application of manure, although the same crop has been successively cultivated on it, and no rest allowed. Dr. Ravenel has several fields in the same condition and under the same circumstances, and we heard of several others. It appears to be the general opinion here that when manures can be applied with each crop, no rotation is necessary, and as these fields are selected on account of some peculiarity attending them, they are loath to relinquish them for others, either not so well adapted or located. Where manures are not applied, a change of fields is resorted to, and if possible, those which are designed for cotton are thrown out, and permitted to grow up in weeds.—They are generally cultivated two years and rested two. When, however, it becomes necessary to resort to a rotation, in consequence either of not having fields enough to change entirely, or manure for those cultivated, such as have been in potatoes are chosen in preference to those in corn. On either, it is a difficult matter to obtain a "stand," if prepared just before the time for planting the crop, especially that recently cultivated in corn.

Having premised thus much, we proceed to the culture of the crop; we will confine ourselves at present to fields already under cultivation. The rows or beds are almost invariably four feet apart, and this distance is preserved in their corn and potato fields, so that in changing from one crop to another, there is no difficulty created by old beds, which, if at improper distances, would have to be levelled before the new crop could be put in. In preparing for cotton, (if in old cotton fields) the first step is to break down all the old stalks and then to list down into the alleys all of the grass and weeds growing on the sides of the old beds. When manure is to be applied, it is at this stage; by many, it is placed on the list, by others under the list. The quantity applied per acre varies much: there are, we believe, very few, if any, who manure the whole of this crop, though there are many who manure a large portion—all varieties of manure are used. Dr. Ravenel has found sheep's dung decidedly the best, and next to it that from the stables, and then follows that from the hog-pen and cow-house. He has not tried swamp-mud, cotton seed, or any compost, but from the experiments of others, there can be no doubt but that each of these would prove highly advantageous. On a light sandy soil, Mr. Joseph Palmer, made use of swamp-mud, in what quantities we do not recollect, but he found it fully as efficacious as cow-pen manure—it was gathered in September, and used the following spring. At the "*Rocks*," it has been used for many years with great success. It has been applied to the one-half of a particular field, while the other was manured from the cow-pen, and the result has been, that that part which was manured with swamp-mud, is now considered decidedly the best, the whole texture of the soil being changed, and rendered more productive.—So beneficial has been its application, that it is contemplated to change the manures so as to apply the cow-pen to where the swamp-mud has been hitherto, and the mud to where the manure was. The change no doubt will be highly efficacious. Mr. Palmer has also tried fowl-dung as a manure for cotton, he found the plant did not grow tall, but produced most abundantly. In using this manure, it is necessary to be extremely cautious: so powerful is it that a very small quantity is sufficient. In fact, so little is required that most persons unacquainted with its power, would be deceived as to the quantity, and by using too much injure, if not entirely destroy, the crop to which it is applied. It is not one of those kinds which can be applied in large quantities with impunity, as we know from sad experience. Cotton seed has also been applied by a few planters as a manure to cotton, but in the only two experiments which we heard related,

the results varied somewhat. Mr. Joseph Palmer, some years since, after preparing his land, opened a deep furrow, and filled it with cotton seed which had been exposed during the whole winter, using one hundred bushels per acre, twenty acres were so manured, and they were computed to yield at least three hundred pounds of clean cotton per acre. The whole field contained sixty acres, forty of which was not manured; the average of the whole field was two hundred and fifty pounds, that to which the cotton seed had been applied did not grow tall, but bore astonishingly thick. The other experiment was made by Mr. James Gaillard. He applied cotton seed at the rate of a half bushel per row of one hundred and fifty feet. The cotton grew most luxuriantly, but continued growing so late, that it was caught by the frost, before it had matured many of its pods, and but little was obtained from it. These are the only two experiments we could hear of with this manure, and it is certainly highly deserving of investigation, whether cotton seed would not be one of the best manures which could be applied. If the plan of planting the same crops (especially cotton) in the same fields be persevered in, and the theory of Griseenthwaite be correct, that every plant requires a specific nutriment independent of what is requisite for all others in common, then it follows, that the application of the cotton seed cannot fail under proper management, to be one of the most useful that can be applied, and if the old stalks be beaten down, and the seed be returned, the cotton wool will be all that is lost to the land, and this is perhaps more than made up for, by what is gained, from the atmosphere, by the leaves of the plant, grass, weeds, &c. To preserve the fertility of the soil this might answer; to increase it, more may be requisite, which could be collected from other sources. Plaster of Paris has also been tried by Mr. S. G. Deveaux, in quantities of from two to two and a half bushels per acre. On some acres it was strewn in the trenches and listed on—on others it was strewn on the list, and some acres were planted with seed rolled in plaster. The product was not kept separate and weighed, but so great was the improvement, that the very row at which this manure commenced was easily distinguishable at a considerable distance. These experiments, unfortunately, have not been continued, and this is to be regretted, as this manure has been found so very beneficial in the northern states, and elsewhere, and has done more to renovate their old lands, than any other which has or could be generally used. We hope they will be repeated by Mr. Deveaux, and by other of our planters, and that they will let the results be known.

The ground being listed, the next step is bedding. This is not usually done until towards the approach of spring, when the usual preparations for planting are made. Major Samuel Porcher, and his son Thomas Porcher, however, differ with most of their neighbors, with respect to the time this should be done. By them it is commenced as early as January as their other occupations will permit, and the object they have in view, is to render the bed firm and compact before the time for planting arrives—the reason for desiring this will be stated below. The beds are extremely small, from twenty-four to thirty inches base, and not more than from six to eight inches high. Formerly large beds were much in vogue, but they have recently been abandoned, and the very small substituted. The reasons assigned by Major Porcher, (and we believe they are those which govern in this case) are, that in making large beds, the poor soil is mixed with that which is good, and thus deteriorates it—that they require more labor to cultivate them, as a greater surface has to be gone over by the hoe; he also thinks the plant injured by a large bed, that it does not thrive until it throws out its lateral roots, which is not done until the tap-root reaches the hard earth underneath the bed. This practice is directly at variance with that adopted on the sea islands, where the beds are from three to four times the size

of these, and the reasons assigned there, are that in large beds the roots of the plant have more room to search about for food—they are not so subject to injury from great falls of rain, nor do they suffer so much from drought. Which of these be correct we will not venture an opinion, perhaps difference of soils and situations may require the difference which exists between them. An experiment to settle this point, was instituted by the late Mr. Samuel Gaillard, of upper St. John's, at the "Rock Plantation," with an account of which we have been politely furnished, and is as follows:—

"Experiments upon the sizes of Cotton Beds.

The large beds would measure about 10 or 11 inches from top to base.

The common size about 4 or 5 inches do. do.

The small beds were mere lists.

1826—Planted thirty-six rows in the following manner, the four first rows very small, the next four of moderate size, and the next four of a large size, and so on successively; these beds were four feet apart and fifty yards long. The result was as follows:

12 small beds,	105 lbs. of seed cotton.
12 common sized beds,	109 do. do.
12 large beds,	115 do. do.

There was an astonishing difference in the height and bearing of the cotton until sometime in August when the difference became less perceptible. The early part of the season was very dry, no rain fell from the 5th of June to the 10th of July. First frost 20th November.

1827—The experiment of this year mislaid and not recollected.

1828—The experiment again pursued in the same manner as in 1826—result as follows:

12 small beds,	97 lbs. of cotton in seed.
12 common sized beds,	125 lbs. do. do.
12 large beds,	135 lbs. do. do.

1829—The result of a similar experiment.

12 small beds,	61 lbs. in the seed.
12 common sized beds,	71 lbs. do. do.
12 large beds,	57 lbs. do. do.

1830—

12 small beds,	116 lbs. of cotton in seed.
12 common sized beds,	121 lbs. do. do.
12 large beds,	110 lbs. do. do.

This experiment was no longer pursued."

The planting commences about the first of April, some, however, begin as early as the middle of March. A kind of dibble is used for the purpose of making the holes and marking the distances. It is nothing more than a piece of plank ten inches wide and three inches thick brought to a sharp edge, with a handle four feet long, and a small piece of wood (a lath) running diagonally across the lower part, which being of such a length as to touch the ground when the dibble is struck on the bed, marks the spot where the next hole is to be made; the hole made by each stroke is ten inches long and three wide at top, and into this the seeds are dropped by the hand, following.

A fact was mentioned to us, and which we had abundant opportunity of verifying whilst on our visit. It is, that cotton planted either *immediately* before, during, or after a heavy fall of rain, sufficient to saturate the earth, will not come up as early as that which is planted some days after, when the excessive moisture has in some measure evaporated. Cotton planted by Major Porcher on the fifth, sixth, and seventh of April, (just before a rain which lasted for three days) was very irregularly up on the twenty-fifth, whilst that planted on the 9th of April had been up a few days, and the stand pretty good; a more remarkable instance occurred at Dr. Ravenel's. A field which was planted on the fifth and sixth, was very irregularly up on the twenty-eighth, whilst that planted many days after, we believe, at least, a fort-

night, was up most beautifully at this time. We saw several other fields which verified the remark.

The hoe is almost exclusively used in working this crop. The time of giving the first hoeing is generally soon after the crop is up, in order that the soil may be loosened, and the young roots find easy progress in search of food. It is well known that early and frequent hoeings are very serviceable to plants, and that their progress is very often in proportion to the care bestowed on them in this respect. Major Porcher, however, differs with his neighbors, as to the proper time for giving the first hoeing. He never permits a hoe to go into his field until after the seventeenth of April, and assigns as a reason that he has invariably observed, that there is a cool spell of weather about that period, and often frost. If the beds are compact and firm, the plants are but little injured, but if light and porous from having been worked, the cold air and frost penetrates, and the plants are seriously injured, and often killed. He has never lost a crop of cotton in its early stage, and attributes his success to following this plan invariably. It is not, however, followed by many, but on the contrary it is usual here to commence hoeing soon after the cotton is fairly up. In performing this operation, care is taken neither to increase or decrease the beds in height. The hoeing is almost invariably upwards, but the earth is not drawn to the plant, but merely to the sides of the bed, by which operation the bed is enlarged, whilst the height remains the same. Some endeavor to keep the size exactly the same throughout the season, and the reason assigned is, that no new surface being exposed, fewer grass seeds are brought within a vegetating distance, and consequently there is less to destroy at the subsequent workings; whereas, by hoeing down and then up, the reverse takes place. Major Porcher mentioned several experiments, going to prove that it took from one-third to one-half more labor to keep the same space clean when hoed down and up, than when the same surface had been uniformly kept exposed. Mr. Joseph Palmer's plan is, when the fields are grassy, to hoe down, place the grass in the centre of his alleys, and then cover it by running the plough on each side, this is subsequently reversed, and the whole drawn up to the cotton, taking care, however, to increase the size of the beds very little.

The thinning commences with the third hoeing, when the bunches are "broken," that is, have a number of plants removed from the centre of the bunch: at the next hoeing they are thinned down to four or five, then to two, and finally, but one stalk is left at the distance of every two feet. From four to seven hoeings are given according to the season, generally five are sufficient, and all endeavor to give it the last working by the first of August. If worked later, the growth is continued too long, and although the plant becomes very luxuriant, yet, on this very account does not commence opening its pods until late; consequently the product is lessened by its being overtaken by frost. If after this working grass should appear, hicks are sent in when it is grown to some size, which pick it out; being generally in large tufts. It is rarely troublesome so late, and when the fields are so shaded as at this period. There is one rule adopted by Major Porcher, which ought to be more generally followed than it is. It is when the fields are tolerably free of grass to work them regularly through, but when there is much grass there, that which is cleanest is first gone over, because if that which was then comparatively clean, should be hoed first, it would become in all probability as polluted as any, by the time it was worked in its regular course. We are aware, that this is no novel plan, it has been acted on by many long since, but it is not so generally adopted as it ought to be.

Throughout, the whole culture is performed almost exclusively with the hoe. The plough is but little worked in this parish, and we believe by no one is much used in this crop. By some, the "scrapers"

are employed to destroy the grass in the alleys; but even this instrument which might be rendered very efficacious, is comparatively but little used, and by many not at all.

The picking commences about the first week in September, or as soon after as from fifteen to twenty pounds can be obtained by each hand. When the pods are opening fast, from fifty to sixty pounds are assigned to each full hand for his task. Some planters, instead of weighing their cotton have it measured. For this purpose, a skeleton tub is made, being nothing more than a few laths nailed to loops. A parcel of cotton is then dried, placed in this measure as light as possible, weighed and the spot marked. This measure is afterwards constantly used instead of weights, and each hand is permitted to put in the cotton he has gathered, and as light as he chooses. The advantages arising from this substitution of measuring for weighing are, that the negroes are more careful in picking, taking none but that which is fully open, and leaving all which has been spoiled by rain or other causes; and again, instead of keeping it confined in order to retain its moisture, so that it may weigh heavy, it is spread abroad to dry and frequently turned, in consequence of which, very often, but little more drying is necessary, if any at all. The plan of drying in the sun which was once so universal, is now not so generally practised on the sea-islands. The cotton there is kept as much as possible from it, during the time of picking, and afterwards, is dried on scaffolds, with sheds erected over to exclude the rays of the sun. It has been ascertained that the sun exerts a prejudicial influence on the staple of the cotton, the oil is dissipated, and the fibres rendered coarser.

Early in the morning before they go out to their work, each hand sorts the cotton he brought in the evening previous, separating the stained from that which is good. The average product from unmanured land is estimated at one hundred pounds per acre, and from that which has been manured at from one hundred and thirty to one hundred and fifty per acre.

Preparation for market.—The foot-gin is alone used in these parishes, and from thirty to forty weight of cotton is the labor assigned to each hand. The first process, however, is to pass the cotton through the whipper,* for the purpose of freeing it from dirt, and opening it preparatory to its being passed through the gin. After this, it is again passed through another whipper, when it is moated and packed. The course adopted by Mr. Thomas Porcher, is to have as many hands engaged in moating as there are ginners, to each of whom forty pounds are given, the moater proceeds with his work as fast as it is ginned, the consequence of his arrangement is that as the latter has to pick out all specks and *broken seeds*, he is extremely watchful of the ginner, and will not permit him to be careless, but reports him to the overseer should he persist.

The other crops we shall notice in our next.

(To be continued.)

* The cotton whipper used in these parishes is made as follows:—a frame work nine feet long and three feet wide (outside measure) is constructed—this is closed on three sides, the bottom is semi-circular and open, formed by small laths, one and a quarter inch wide and separated one and a quarter inch from each other. Through the centre passes a shaft with spokes twenty-nine inches long, and one inch diameter, placed spirally at a distance of four inches from each other. The whole frame slopes from the handle to the lower end, the height at the former being four feet and the latter three feet; the shaft is turned by a handle, or by a wheel and band. The cotton is thrown in at an opening on the top near the handle, and by the revolutions of the shaft, is opened, the dirt separated and falls through the openings at the bottom, whilst the cotton is finally thrown out at the lower end, through a spout. A model can be seen at our office.

(From the Richmond Compiler.)

MARL.

We are happy to learn that some of our neighboring farmers are about to resort to the plan of using marl upon their lands. It was not supposed till recently, that any considerable deposits of it were found so far up from the sea. How these shells got there, is one question—and we will undertake to explain it, when any person will tell us how the teeth of sharks have been found at least sixty feet below the ground. Yet such is well known to be the fact, on digging a well many years ago, in the yard of the penitentiary. There were the sharks' teeth, and here are the marine shells.—Whether they were brought there at the time of the deluge, or whether the sea has been forced from the land by some sudden convulsion of the earth, or the blow of a comet's tail, or whether the sea has gradually receded from the land, we leave it to wiser men to speculate and find out, if they can. All we know is that the shells are found far removed from the sea—and that beds of them have been discovered in the neighbourhood of our rivers.

It has been long known that marl was found in the vicinity of York Town. This has been spread by a few of the farmers on their fields. It has also been found in considerable quantities in certain places on the James river. We have seen it in the bank, near the river, on the late colonel Allen's estate, in Surry county. It has been freely used, not many miles distant, by Mr. Edward Ruffin, of Prince George, who has made more experiments upon it than any other farmer in Virginia. He has employed it to very great advantage upon his lands—improved their fertility, and enlarged his crops. His brother farmers, however, are under greater obligations to him, than for the mere experiments—for, he has published a volume on calcareous manures, in which he has communicated all their results. The work has been received with great approbation by every farmer who takes any interest in the subject.

Beds of marl have also been found in the vicinity of the waters of the Pamunkey in Hanover, and of Chickahominy in this county (Henrico).—Messrs. W. and E. Wickham, in Hanover, have been hauling it and spreading it upon their lands—and it is said with great advantage—and a recent writer in the Enquirer, from this county, who represents himself as residing about a mile and a half below the granite ledge of rocks which cause the falls of our principal rivers, states that—

“He has found an abundance of shell marl on his farm. It consists chiefly of the large clam shells, a few of the large size scollup shells, and all the numerous varieties of the *small salt water shells*. All these shells, except the scollup, are so far decayed that the least pressure reduces them to powder, as white and as fine as slaked lime. These shells are found in the bottoms of ravines and branches, and sometimes in the bottoms of gullies, half way up hills of a hundred and more feet elevation above the flat lands below. They constitute at least one-half of the stratum in which they are found; the other half is a wet blue clay, that has a shining oily appearance, and feels like soap between the fingers. When dry, this blue clay becomes more of a gray color, the protuberances being entirely white. It effervesces in acids; and when dropped into pure water, it gives out a quantity of fixed air, and tumbles into an impalpable powder at the bottom of the glass. It has a very strong and offensive sulphurous smell when exposed some time to the atmosphere. Very short exposure to the air and rain decomposes the shells, and reduces the blue earth to a powder. I have made a few experiments with this and find it exceedingly fertilizing—and intend to go extensively into the use of it.”

He consults Mr. Ruffin about the character of this blue earth, which he states as having a strong smell of sulphur, tumbling into powder in water, but it does not effervesce much in acids.

He also speaks of having found “banks of a white substance with a slight tinge of blue in parts of the mass; four-fifths of which seemed to be nothing but petrified shells of the smaller kinds. The forms of each variety of shells are perfectly distinct and marked in the general mass, and of a white color; the interstices only being tinged with a blue cast. This is also found in a wet state; but upon being exposed to the air, becomes almost as hard as a rock. It does not fall in water; nor is it affected by acids, except when pulverised, and then in a small degree. Yet it looks and smells like a lump of lime that had been burnt and slaked, and had regained its carbonic acid and become solidified in conjunction with finely divided silex. The samples of all sorts that I have examined, have been taken from near the surface. I have not ascertained the thickness of any one bed I have discovered.

“Where the shells are found in greatest abundance, and the marl is unquestionably rich, it is overlaid by a stratum of blue earth filled with the prints of shells; but when you get within a foot of the undecomposed shells, you find not only the prints of the shells, but the shells themselves in perfect form, but in an oxidised state; or, rather perfect in form, but of a dirty yellow color and quite tender in texture. In many instances you find half the shell in this state, and the other half in the soft white state I have before mentioned.”

Mr. Ruffin has politely replied to the inquiry, and says, he has no doubt the earth in question is “gypseous earth, in its proximity to, and connection with shell marl.” He adds, that if it “contains enough gypsum to be valuable as a manure, its presence may be detected by the eye, either in small transparent crystals, or in a powder resembling white sugar in appearance; that gypsum will neither dissolve nor effervesce in muriatic acid; but if exposed, finely powdered, for some days to the action of a saturated solution of salts of tartar, the gypsum will be decomposed and converted to calcareous earth, [carbonate of lime,] which then will dissolve rapidly, and with violent effervescence, in muriatic acid.” He says that this gypseous earth is to be used on clover only, and on soils previously marled, or otherwise made calcareous—and that its effect on clover is much superior to that of the Nova Scotia or French plaster.

We lay these facts before our readers, in order to persuade our farmers, in this vicinity especially, to look out for marl on their lands, and to employ it as a rich manure on their clover. We know this spirit of improvement is already insinuating itself among our agriculturists, and we wish to do all in our power to encourage it. We hear that others, besides those whom we have named, not far from the Pamunkey, have found beds of marl, and are spreading it upon their lands. It will unquestionably redound to the benefit of agriculture, and of course, to the extension of commerce. What improves the country must improve the city, and vice versa, what improves the city must to a certain extent improve the country. Whatever prejudice may say to the contrary, their interests are greatly and essentially connected.—Produce comes to our cities, and capital overflows into the country. The tide alternately flows from one to the other. It is but the last week that one of our most enterprising and successful merchants vested more than fifty thousand dollars in the purchase of one of the finest estates on the James river. Why does that fine estate on the other side of our river, where, to use the words of one of our finest orators, the county of Chesterfield puts her best foot foremost—why does that estate present such a scene of fertility and beauty to the eyes of our citizens, but, because it has been more highly improved by the capital which was accumulated in Richmond?

Let our farmers, then, improve their lands as much as they can, by good manure and judicious rotation of crops—and we in the city will all be the better for it.

We shall have more wheat to grind, more corn to eat or to ship, and more grass for the consumption of our horses.—Along with these marling schemes, we see also a few of our farmers redeeming precious low grounds from the waters of the James river, by artificial dykes—and we know of one at least on the Pamunkey, whose wheat crops have been subject to freshes and loss, now setting in with a wise economy to dam out the flood by similar levees. We have no doubt he will ultimately be richly compensated for the pains he is taking.—*And thus ends our lesson!*

§ Since writing the above, we have understood that two of the farmers of this county, in recently ransacking the ravines and gullies on their land for marl, since the subject has been stirred, have come to very rich beds of marl, a very few feet below the surface.—Several of the shells have been found in their original state.—One of them estimates the value of his land at least seventy per cent. higher than before. We have now before us a small ball of the earth in which this marl is embedded, that exactly resembles putty in its appearance. *Seek and perhaps you will find.*

(From the Southern Agriculturist.)

PLANTING COTTON.

I do not plant cotton so soon as my neighbors do generally. I commence planting about the 10th or 12th of April, and finish about the 25th. My experience justifies the opinion that cotton planted the 1st of April hardly ever does so well. With regard to long litter being a good manure for cotton, I have had no great experience, though I have tried it partially; most of the manure that has been made on this plantation, has been applied to the corn crops, but I know of no reason why long litter will not answer as well for cotton as for corn. I am about to try it on an extensive scale this year. All the corn stalks from last year's crop, together with large quantities of leaves and swamp-mud, were carted into the cow-pen, in which the cows were penned nightly, until the first of November; after that time, until the first of January, they never left the pen, only to be driven to water. I suppose, sir, that I have manured from fifteen to twenty acres of ground with these materials; placing as much as a yoke of oxen could conveniently draw on twenty feet square. This ground I intend to plant in cotton. If any thing should occur to render it a crop worthy of interest, I will freely state it.

Yours, &c.

W. A. G.

HORTICULTURE.

(From the New England Farmer.)

CULTURE OF MADDER.

MR. EDITOR: Bridgewater, August 20, 1832.

Sir,—Agreeably to my proposal in a former communication, I send you an article on the culture and cure of madder; and believing many persons may be in possession of a book entitled the “American Gardener,”* which contains directions for the culture of Madder, in some respects erroneous, especially with regard to the distance of planting, managing the haulm or tops in the fall and spring. The following are the directions given in the above work. “The Rubia tinctorum or dyers’ madder is an article of much importance in manufactures. The plant has a perennial root and an annual stalk. The root is composed of many thick succulent fibres, like the roots of asparagus, and strike very deep in the ground, being sometimes more than three feet in length.

“The land best adapted to the culture of madder is a deep, loamy, substantial soil, not too stiff and heavy, nor over light and sandy; this should be twice ploughed in autumn and left rough in the winter, that the frost may mellow and pulverize it; then ploughed again in April, taking care every time to

* Not the New American Gardener, by the Editor of the N. E. Farmer.

plough it as deep as possible. The time of planting is about the latter end of April or immediately when the young buds begin to appear above ground. The young shoots are then taken from the sides of the mother plants with as much root as possible, and are planted in rows three feet asunder and twelve inches distant in the rows, plant from plant, (1) observing to set each slip down to its top or crown and keep the ground clear from weeds. In November, the haulm being decayed, cut it down and take it off, (2) then draw three or four inches of earth on the crown of the plant; this may be performed with the plough or hoe, and let them remain so all winter. The second year, in the beginning of April, the earth on the top of the rows should be carefully taken off and raked to destroy the young weeds, and make the surface smooth and mellow, as also to permit the rising buds to shoot freely. The second summer the same care must be taken of the madder as the first, and in November the crowns of the roots are to be covered as in the preceding year. The madder roots should never be taken up until they have had three summers' growth, and the culture of the third summer is the same as the second during the spring, summer and autumn. In September or October of the third year, when the haulm or tops are perfectly decayed, the roots are to be carefully taken up and dried a few days in the air and afterwards put into a kiln, and effectually dried with a slow heat."

(1) Mr. James Eaton, the neighbor spoken of in my former communication, saves the tops of the root from two to five or six inches long with the buds attached to them, when he digs his madder in the fall, and lays them on a dry piece of ground and covers them a foot or more with earth for planting in the spring; they are then ready for sale from that time out May or for his own planting. They will when dug in the fall bear transportation to any distance, but when taken out of the hills in the spring after the shoots spring out of the ground, they will not keep long.

Mr. Eaton and myself have hitherto planted our madder (shaping our hills like corn hills at second hoeing,) four feet apart each way, with two plants in a hill, six or eight inches distant plant from plant, but we find that the hills are too close for cultivation the second, and especially the third year. We have this last spring planted in drills six feet apart and twelve inches distant plant from plant in the drills. If we plant roots taken up in the fall, after shaping our ridges, we make a hole of the depth for dropping corn, or perhaps two inches, and put three or four inches of earth, after laying the roots flat on them.—As respects cultivating the first season, weed when three inches high, and throw a little earth round the stems; at six or eight inches, plough and hoe. It will be found the tops will fall or plough over on the ridges. Let them be shaped each way across the ridges and covered two inches or thereabouts, except the ends of the stalks—in three or four weeks they may be spread parallel with the ridges each way. Weed and put more earth on them; the last earth for the season may be put on in the latter part of September. The great object in raising madder as well as in raising other crops, is to produce a large quantity with as little labor as the case will permit. Now if we plant on rich soils, ridges three feet apart, the tops would cover the whole of the ground the second year, and it would be difficult to procure earth without deranging the tops. The ridges should the third year be from three to four feet broad at the base, and completely filed with roots, and will be from one and a half to two feet high. The digging of the madder in some soils costs \$25 per acre, if planted even four feet apart in hills or drills; but at six feet apart not over \$18, as the ridges will be large and the roots mostly or all easy to get out of the ground. I am of opinion where a person has madder on his ground three years old, that the roots taken from the sides of the mother plants in the spring, will succeed as well as those taken up in the fall, but with this difference in

planting—that they should be set perpendicular, as directed in the American Gardener.

(2) We consider it an improvement to let the tops decay the first and second year. They are no trouble to the cultivator the ensuing spring; if we put a shovel full of earth on the crowns of the plants after the tops are decayed, or after one or two hard frosts, (which we sometimes do, although it is a very hardy plant and never found to be injured under the soil,) we do not rake the same off in the spring, but suffer it to remain, and let the young shoots come up through it. This being the second season, when the tops come up about a foot or thereabouts, they will begin to fall at this time; a person should with a pair of gloves or something to protect his hands, spread the tops crossways of the ridges and cover with earth two or three inches deep, but not cover the ends of the stalks, and in three or four weeks more earth outwards, following the tops which lie on the ground after this. As the sprouts rise out of the ground a foot or more, bend them down and cover. This should be done the latter part of a dry day. When the tops are spread previous to covering, it should be done evenly. Keep the ground free from weeds the second season. Pursue the same course the third season, excepting no earth need be put on after the first of August. As soon as the frost has killed the tops, wash and dry the roots as directed in first part of this communication.

Mr. Eaton has hitherto sold his seed for five dollars per bushel—four bushels per acre; but in the drill method, it will take about five and a half bushels.—We believe an average crop is about 1500 lbs. on rich soils. He has sold his madder for two years past to merchants in the country, \$24 per 100 lbs. I believe the article is lower at this time. The whole cost of cultivating, digging, washing, drying and grinding, (in a grist-mill) may be about 7 cts. per lb. I will observe, that the madder raised in these parts will produce more color than the imported. I believe, however, the difference may be accounted for in the different mode of pounding or grinding, pursued in each country. The imported madder has three separate poundings after washing, viz: the first pounding separates and brings into the form of a powder, the smallest fibres of the roots, with the skin or husk of the larger ones, and any earth which may have been left adhering thereto; a second pounding separates about one-third of the remaining part of the larger roots, and this being sifted and packed separately is called powder. The third and last pounding comprehends the residue and bright parts of the roots; this is called grape madder. This kind is as yet rather scarce in this country. The madder roots raised in this country are pulverized at one grinding. This may account for the difference in quality. I should like to see a statement from one of your correspondents of the quantity imported any one year. We need not import a pound after five or six years, as we can raise it as easy as any other crop I am acquainted with. I think it would be a proper article for a premium, to be awarded by some of your patriotic societies, to be inspected at the mills or in tiers. There can be no doubt but the time will arrive when we shall export madder. Yours, RUSSELL BRONSON.

GARDEN GRAPES.

[From a series of excellent articles entitled, "The Garden," published in the Port Carbon Gazette, we extract the following remarks on the culture of the grape:]

"As a large majority of my readers will have room for but a single vine, pruned and cultivated on the plan I shall suggest, my first numbers are calculated particularly for them; but the same principle will apply to the cultivation to any extent, and I must depend on their being remembered by those who may adopt the course of culture hereafter to be designated for the AMERICAN VINEYARD.

The preparation of the ground is of primary importance. If the soil be light and shallow, the plant is likely to perish from two causes: in the summer by drought, and in the winter by frost. To avoid these injuries, dig out the bed from three to four feet deep. If the ground you have selected be light and porous, four inches of clay should be placed at the bottom; then throw in any good garden soil—but if bones, horn shavings or old shoes can be had, the vine will delight to extend its roots among them, and they should be well mixed in with the earth, eighteen inches or two feet below the surface, where the roots will be out of danger. This four feet of ground will answer for two or three years, when, if your vine has grown vigorously, it will require additional nourishment and space for the roots; but I presume that most persons would at once prepare ground so as to suffice for many years. If a brick pavement is to cover the bed, a few inches of sand may be placed on the surface to imbed the bricks, which should not be so closely jointed as usual. This pavement may be brought within a foot of the vine.

It will be perceived that I admit of no excuse for not possessing a vine: those who have no room for a single garden bed may have their clean brick walk under the shade of one, of luxuriant growth—the expense is trifling, compared with its permanent advantages.

I have known a single vine, cultivated in this way, to produce in one season fruit which sold for more than one hundred and fifty dollars; and a neighbor of mine, who kept a shoe store, could show on a vine seven years old, nearly seven hundred bunches of sweet water grapes well ripened; yet he had no room for a single garden bed, and trained his vine over a brick pavement. Some of his leisure hours were thus innocently and delightfully occupied, without any interference with his business.

We will commence with

THE CUTTING.

This should be selected from round well ripened wood, of last summer's growth; from four to six buds, according to the distance of the joints: cut it midway between the joints, sloping opposite to the bud. Place it in a sloping position in the ground, two eyes out of the ground, the lower one even with the surface. Be careful to place it so that the eyes may throw out branches parallel with the bars of the trellis. Let the soil in immediate contact with the cutting be very fine and rich; water it frequently until fairly rooted, which is always the case when the shoots are six to eight inches long; break off the weakest, and as the other advances, tie it with bass to a pole, taking off with the thumb and forefinger, all the lateral shoots; thus keeping one clean handsome shoot, which receiving all the nourishment of the roots, being exposed to the light and air, will generally be of most vigorous growth.

Preparation for the second year.—At the pruning season cut down this shoot to four eyes; when they have advanced a few inches, in the spring select the two best shoots, and train them on poles or to the trellis as directed for the first year. The third year. Shorten a little the best shoot, and cut the other down to three eyes; the long shoot may be suffered to bear some fruit; as the buds put forth the best fruitbearers will be readily discovered; those which are not strong may be rubbed off, but one shoot at the end of this branch must be divested of fruit, and retained as a leader. Retain two of the best shoots from the other branch, and train them eighteen inches or two feet apart, but three or four feet from the fruit-bearing branch, always taking off the laterals, and laying the wood in on the trellis as at first directed; we are then advanced to the fourth year, and have at the pruning season two new vigorous shoots, and one fruit-bearing branch with numerous shoots; shorten the leader on the fruit branch to eight or ten eyes, and all the branches on it to one eye each; shorten

one of the new shoots to four eyes, and the other down only to the sound well ripened wood, tie them snugly to the trellis; the fruit branches, if adjoining each other five feet apart. Then for this season we have two fruit bearing branches—select a leader for each of these, and prune and train them as directed for the third year, from the branch shortened to four eyes train two or three, as before directed. You are then advanced to the fifth year, when the pruning must be made to suit the place to be covered, always keeping in mind the absolute necessity of light and air; a branch of the old wood must be occasionally removed and replaced with young wood, which the intelligent cultivator will find no difficulty in furnishing. Having advanced thus far, I must observe, that my calculations have been made for a vigorous vine, but a vine can be pruned on the plan suggested, according to its strength, and the pruning recommended for the second or third year, may be deferred until the plant has acquired the requisite vigor. Sometimes a year may be saved by purchasing a thrifty vine from a nursery man. Bass or matting may always be had of the nursery men, some should always be in readiness for use. I shall pursue this subject in my next.”

V.

(From Cobbett's American Gardener.)

FALL SOWING OF SEEDS.

It is necessary to observe, that some, and even many things, which are usually sown in the spring, would be better sown in the fall; and especially when we consider how little time there is for doing all things in the spring. Parsnips, carrots, beets, onions, and many other things, may be safely sown in the fall. The seed will not perish, if covered by the earth.

Seed of all plants will lie safe in this way all the winter, though the frost penetrate to the distance of three feet beneath them, except the seeds of such plants as a slight frost will cut down. The seed of kidney beans, for instance, will rot, if the ground be not warm enough to bring it up. So will the seed of cucumbers, melons, and Indian corn, unless buried beyond the reach of the influence of the atmosphere. Even early peas would be best sown in the fall, could you have an insurance against mice. We all know, what a bustle there is to get in early peas. If they were sown in the fall, they would start up the moment the frost was out of the ground, and would be ten days earlier in bearing, in spite of every effort made by the spring-growers to make their peas overtake them. Upon a spot, where I saved peas for seed, last year, some that was left, in a lock of haulm, at the harvesting, and that lay upon the dry ground, till the land was ploughed late in November, came up, in the spring, the moment the frost was out of the ground, and they were in bloom full fifteen days earlier than those sown in the same field as early as possible in the spring. Doubtless, they were have borne peas fifteen days sooner; but there were but a very few of them, and those standing straggling about; and I was obliged to plough up the ground where they are growing. In some cases it would be a good way, to cover this sown ground with litter, or with leaves of trees, as soon as the frost has fairly set in; but not before; for, if you do it before, the seed may vegetate, and then may be killed by the frost. One object of this fall sowing is, to get the work done ready for spring; for, at that season, you have so many things to do at once! Besides you cannot sow the instant the frost breaks up; for the ground is wet and clammy, unfit to be dug, or touched, or trodden upon. So that here are ten days lost. But, the seed which has lain in the ground all the winter, is ready to start the moment the earth is clear of the winter frost, and it is up by the time you can get other seed into the ground in a good state. Fall sowing of seeds to come up in the spring is not practised in England, though they are always desirous to get their things

early. The reason is, the uncertainty of their winter, which passes, sometimes, with hardly any frost at all; and which, at other times, is severe enough to freeze the Thames over. It is sometimes mild till February, and then severe. Sometimes it begins with severity and ends with mildness. So that, nine times out of ten, their seed would come up and the plants would be destroyed before spring. Besides they have slugs that come out in mild weather, and eat small plants up in the winter. Other insects and reptiles do the like. From these obstacles the American gardener is free. His winter sets in; and the earth is safely closed up against vegetation till the spring. I am speaking of the north of Virginia, to be sure; but the gardener to the south will adapt the observations to his climate, as far as they relate to it.

(From the Barnstable Journal.)

BAYBERRY OR WAX-BEARING MYRTLE.

Barnstable, (Mass.) August 23, 1832.

The very respectable and industrious representative of Portugal, at Washington, has furnished the correspondent of the New York Journal of Commerce, with an interesting article on the tree or shrub commonly called myrtle. It is a native of North America, and abounds on many of the moist sandy beaches, from Maine to Louisiana. Of this shrub there are several species. The one known in the northern states by the name of bayberry or wax-bearing myrtle, and at the south as the candle-berry tree, is the most valuable. It is a rather low and spreading shrub, having crooked stems, and lanceolate or spear shaped leaves, with a few indentures towards their extremities. The bark of the young shoots and the leaves being bruised, “emit the most refreshing and delightful fragrance, exceeded by no myrtle, or any aromatic plant.” The berries grow in clusters on the stems, about the size of pepper corn, and when ripe, are covered with a whitish green wax.

At Sandy Neck, on the north side of Barnstable harbor, this shrub abounds, and an active person, may in autumn, gather two bushels of the berries per day. The wax or tallow is collected by boiling the berries in water, a bushel yielding from four to five pounds. Its specific gravity when cold, being greater than that of water, the wax is skimmed off during the process of boiling, otherwise it would settle among the berries and be lost. It is afterwards clarified in brass kettles, and applied to a variety of purposes, but it is chiefly used in making candles. These burn for a long time, produce little smoke, emit an agreeable odor during combustion, and never melt and run down at the sides like those manufactured from tallow or spermaceti. It is usual to mix bayberry with other tallow, because candles made wholly from it, do not give a strong light, particularly during cold weather.

Bayberry tallow has been used, more or less, in this vicinity, since the settlement of the country; but we were not aware that it was so extensively at the south, till after reading the article referred to in the Journal of Commerce. Candles made of a mixture of bayberry and other tallow, are a beautiful and economical article, and it is somewhat surprising that they are not in more general request. Fine scented soap is also made from this wax, and in New York city there is a manufactory of the crude article.

(From the Genesee Farmer.)

EXOTIC PLANTS.

Sth mo. 8, 1832.

There are two kinds or classes of exotic plants from warmer climates, usually kept in green houses, which may be safely trusted in the open border with a very little care, viz: 1. Bulbs that bear deep planting, and a temperature in winter about the freezing point. 2. Shrubs that flower, after having been killed to the ground, from a stalk of the present year's growth.

In a sunk border, deeply planted, I have had *Jammyllis longifolia* several years without sustaining the least injury in winter, although it is indigenous to the Cape of Good Hope; and a florist of great experience is of opinion that several other species of that fine genus, might be planted along side in the same border with every prospect of success.

It is surprising from what a depth some strong bulbous or tuberous rooted plants will protrude. Some years ago, in autumn, by accident, a Crown Imperial was covered by a mound of earth two feet deep; yet in the spring it forced its way upward, and has continued ever since to flower annually. By the same mound the root of a *Paeonia* was buried nearly eighteen inches, and it still keeps its place.

I had planted *Arum dracunculoides* from the south of Europe at the usual depth for lilies, but it was destroyed by the frost. I was then advised to plant at the depth of eight or nine inches, which has proved to be sufficient, for it has safely withstood our hardest winters, although the border is raised several inches. In trying such experiments, however, with *Jammyllis* or *Panzerium*, I would recommend a border of heavy loam enriched by vegetable earth, either sunk or on a level with the general surface.

Shrubs which are annually killed to the ground, and then produce flowers on stalks of the present year's growth, become in effect herbaceous perennials. I have several plants of this kind which suffered from the frosts of last winter, but which have become reconciled to a climate widely different from that in which they indigenous grow. *Genista tinctoria* and *Hypericum hircinum*, on stalks which have risen this spring from the ground, have long since presented their beautiful yellow flowers; and *Lagerstramia indica* under similar circumstances is now covered with delicate purple blossoms. *Vitex agnuscastus* is preparing for a similar display; and several China roses scarcely retain the habit of shrubs. D. T.

(For the American Farmer.)

TOMATO.

In GERARD'S Herbal,* there is a tolerable account of the Tomato (*Solanum lycopersicum*), together with notices of its place of growth, time of planting, and the names by which it is known in different countries. What follows, relates to “Temperature,” and may serve as a specimen of the mode of philosophising previous to the publication of Chancellor Bacon's *Novum Organum Scientiarum*.

“The Golden Apple, with the whole herbe it selfe is cold, yet not fully so cold as Mandrake, after the opinion of *Dodonaeus*. But in my judgement it is very cold, yea perhaps in the highest degree of coldness: my reason is, because I have in the hottest time of summer cut away the superfluous branches from the mother root, and cast them away carelessly in the allies of my Garden, the which (notwithstanding the extreme heat of the sun, the hardness of the trodden allies, and at that time when no rain at all did fall) have growne as fresh where I cast them, as before I did cut them off, which argueth the great coldness contained therein. True it is, that it doth argue also a great moisture wherewith the plant is possessed, but as I have said, not without great cold, which I leave to eury nians censure.”

His opinion of the Tomato as an article of food, might find advocates in the present day, among those who have only tasted, but who have not given them a fair trial. To most persons the flavor is disagreeable at first which a little use entirely counteracts or removes. The culture of this fine fruit ought to be more extensively introduced amongst our countrymen.

*The Vertues.

A. “In Spaine and those hot Regions they vse to eate the Apples prepared and boiled with pepper, salt

and oyle; but they yeeld very little nourishment to the body, and the same *naught and corrupt*.

B. "Likewise they doe eate the Apples with oile, vinegre, and pepper mixed together for sauce to their meat, even as we in these cold countries doe Mustard."

RURAL ECONOMY.

(From Fessenden's Edition of Moubray on Poultry, &c.)
COWS.

It is pre-supposed that a dry and comfortable cow-house has been provided, containing a stall or two, and a *calf pen*, and it is recommended in the *General Treatise on Cattle*, to confine the hinder legs of a cow whilst milking, as well as the head, the former of which is most securely effected by two stumps of wood fixed in the ground, to which the hinder legs may be strapped. They who aim at perfect security, as nearly as that may be obtained, will perhaps be induced to make it a rule, never to milk a cow with her head and legs at liberty; but most, as has always been the practice, will incline to put confidence in the quiet cow; many such, however, have I seen accidentally kick down a swimming pail of milk, and that may very probably happen when the article, being scarce, is of the most consequence—the unfortunate attendant, male or female, then marches into the house, with a grave step, a long face, an apology, and an empty pail.

The provision of room for the cow must be looked upon as the prime concern in the dairy business, for such a constant daily draught upon the animal juices cannot be answered, but by aid of the most ample supply, even to satiety, of nutritious and succulent victuals; not that, according to the absurd notions of many persons, keep regulates and equalizes milking, be the breed whatever it may, since in some breeds, the keep turns to milk, in others to beef; but because the truest and largest milker will very soon lose that precious faculty without proportionate, that is to say, high feeding. Keep short and meanly, and your milk and butter produce will be in exact proportion, and the cow, when dry, emaciated and of little worth.

A farmer, some years since, kept eighteen cows upon a common, and was often obliged to buy butter for his family. The common was inclosed, and the same person supplied his family amply with milk and butter, from the produce of four cows well kept.

Great milkers seldom carry any flesh upon their bones, and are perhaps as seldom made fat, but they pay as they go, and never retire in our debt. The difficulties in cow-keeping are these—the expense of their food is considerable, more especially with respect to any which must be purchased, and if the produce be inconsiderable, it may be a losing concern. You may be leeding a sparing milker into flesh, and if you stint her, or allow only ordinary food, you get neither flesh nor milk.

Amateurs in this line should procure the largest milkers, and I had almost said give them gold, could they eat it. In this case, it may be depended on, milk is always of more value than the best cow food, which is the *jit*; and a cow, the natural tendency of which is to breed milk, will convert all nourishment, however dry and substantial, into that fluid; in fact, will require such solid kind of nourishment, to support her strength, and stimulate her to procreation, in which otherwise, great milkers are very apt to be deficient, and frequently to miss their *bulling* at the proper season. But should grain be allowed, oats are the most proper; they should be ground or bruised, and moistened with water, as the cow would otherwise swallow the oats whole, which would not only fail in giving nourishment, but might be productive of obstruction and disease. Fine pollard also, moistened or mashed, is a nourishing food; the milch cow, however, should always have exercise, and it is more

especially necessary, when extraordinary and substantial food is allowed.

Another great object for our *crack* cow-master and lady of the snug rural mansion, is to have milk, cream, and butter, in a generous abundance and high quality, throughout the winter, as well as the summer season; and of these, if they will take care enough to walk in our old and well trodden paths, they shall not fail. The method is by contriving to have a fresh milker in the winter, with an ample store of the best provisions for the season.

Summer feeding: and let it always be recollected, that *economy* is the leading feature of our plan. Natural grass is the first and best of all food for our domestic animals. Of the artificial grasses, *lucerne* stands first, and green tares are a very succulent and nutritious food for milch cows. The saving method of managing grass, and it will be found excellent economy where the proprietor may have only a small close or two, is to keep it constantly shut, and free from the tread of the cows, and to cut the grass as soon as of sufficient length and substance, and carry it to them; no more being cut at once than can be consumed in a day, the cutting being made in the morning. This to continue throughout the season, and as late in autumn as any growth can be obtained.

According to Mr. Curwen's experience, some years since, three acres of grass out and carried, supplied thirty milch cows with two stone each, or twenty-eight pounds, during two hundred days. He observes that, to have supplied them with two stone of hay each, during the same period, would have required seventy-five acres of land for its production. And to have grazed such a number of cows at liberty, that length of time, it is obvious, must have taken a very considerable number of acres. To enable the meadow to support this exhaustion from the scythe, it should be cleared at the end of every autumn, from all kinds of weeds and rubbish, and fresh grass seeds of the best kinds, cast upon the bare places. A coat of good manure should be then allowed, consisting of all that can be collected from the household, or procured elsewhere, mixed up and augmented with virgin earth. The garden will assist with its superfluity in feeding the cow, and lettuces, as a change of diet, will help to force the secretion of milk. Should the green food scour the cow, a small quantity of good hay must be allowed daily.

The few advocates for the *economical* mode of feeding cows, always direct them to be kept entirely in the house, both summer and winter, a practice to which I have strong objections, not only on the score of the animal's health and comfort, but that I have always experienced exercise abroad to increase the quantity of milk. Thus the cows may be turned upon the common waste, to remain or come home at their liberty, being fed to the full, with cut grass, morning and evening, with the constant caution of allowing them shelter in the fly season. They may lie abroad during the summer nights, in a well littered yard, or secure waste, a sufficiency of cut grass being at their command. Pure water is of great consequence to the health, and productiveness of the cow. If one beast drive the other, always at feeding times tie up the mistress.

Winter feeding.—The chief dependence for cows is *rowen*, or after-math hay. This must be either grown at home, or purchased. It is a piece of extravagance to allow a good milch cow dry straw, *because milk is worth more than hay*; but should the necessity exist of using straw, none other is fit than *oat straw*. *Rowen*, or after-math is generally supposed to force milk, but in poor pastures perhaps the first crop may be preferable; and I have lately been informed by a London cow-keeper, a good feeder, that he has discontinued giving rowen to his cows, finding the best hay most profitable. Carrots are an excellent winter food, indeed the best of the root kind; *mangold* or *beet* also, affords a plentiful supply; which last, however, must be dispensed with caution, cows having been

hoben by it. If *potatoes* be given to cows, they should be steamed or baked; those who venture to give them raw and mashed, should allow hay with them, as in the raw state and freely dispensed, they seldom fail to bring the scouring rot on cows. Bruised *furze tops* are very good, and help to make capital winter butter. Cabbages may be given moderately, but *turnips* make thin milk and bad butter, in spite of all the nostrums which have been recommended as preventives. The miserable practice of giving *oil cake* to cows, insures greasy, unsubstantial, ill-scented butter, and has a similar effect on veal. When substantial food appears necessary, a daily moderate feed of oats broken, or fine pollard, moistened with water, is most proper.

With the two cows in full milk, may be kept well, a *breeding sow*, or two or three young pigs; and should the proprietor desire a specimen of the finest milk-fed pork, he may feed a pig upon skimmed milk, with the addition of a very small quantity of barley or pea-merl, making it thoroughly fat in two months.

Milk beasts should never be exposed by night to the inclemency of the winter season, which chills them, and dries up part of their milk, keeping them backward in all beneficial respects. At any rate, they should have a well littered shed, in which they may repose in comfort, and with their *lobis dry*—a matter of great consequence to their health.

The annual consumption of food per cow, of grass and hay, if turned to grass, is from one acre to an acre and a half of pasture in the summer, and from a ton to a ton and a half of hay in the winter. A cow may be allowed two pecks of carrots per day. The grass being cut and carried, will economize it full one-third.

(From the Southern Agriculturist.)

MANAGEMENT OF HOGS.

Columbia County, Geo. April 1, 1832.

The sows on this plantation, two or three weeks before they pig, are confined to a pasture exclusively devoted to their use. The pasture is situated on the margin of a creek and through it passes a small stream of water; the ground is generally low and flat, but a portion of it is sufficiently dry to afford them places for making their beds. In this pasture the sows remain until the pigs are about a month old. In the mean time, they are well fed on boiled corn, pumpkins, &c. a sow with a large litter of pigs sometimes finds it difficult to nurse them well, no matter how well she may be supplied with food. When this is the case, she should be aided by supplying the pigs with gruel, which as soon as they become acquainted with, they will eat with a great *goit*.

When the pigs have arrived at the age mentioned above, they together with the sows are removed from the pasture, and become a portion of what I call my out hogs. What I shall say of my out hogs, will comprise all that I have to say about the most economical mode of raising them. A post and rail-pen has been constructed for those hogs in which they are penned every night upon good litter of leaves. So accustomed are they to their pen, that it is seldom one absents himself. They are fed night and morning on boiled corn, from troughs constructed on the plan of those in use on the Orange Farm near Baltimore. The hog-pen has a division in it for the small hogs that have arrived from the sow pasture. A small hole admits them to their department, where they are fed with boiled corn liberally. My hogs have an extensive *range*, partly swamp and partly upland. Hogs treated in this manner will be fit for the knife at a year old, and will weigh from one hundred to one hundred and fifty pounds. This plan of raising hogs I do not say is the very best that can be pursued; but I am confident that it is far superior to the system in general practice, namely, roaming at large night and day, by which they are exposed to "disasters from hunger, poverty and assassination."

Yours, &c.

W. A. G.

FINE FULL BLOOD AND MIXED DURHAM SHORTHORN STOCK, FOR SALE.

I can supply to those who may want them several full bred improved Durham Shorthorn Cows and Heifers at from \$150 to \$300 each according to quality, age, &c. They are generally in calf by the celebrated bull Bolivar.

Also, a full bred bull, of the same breed, near ten months old—a fine animal. Price \$200.

Also, a bull calf, five months old, full bred also. Price \$175.

Also several heifers of last spring of a full bred improved Durham Shorthorn Bull out of cows of the Holstein and Bakewell cross. Price \$50 to \$75 each.

Also several bull calves, of same age and blood, at from \$25 to 50 each. Address

I. IRVINE HITCHCOCK,
Sept. 21. Office Am. Farmer.

STRAWBERRY PLANTS.

The following varieties of Strawberry plants are for sale at the experimental farm connected with the American Farmer establishment:—

NEW PINE. This is probably the best of all the varieties for productiveness, flavor and size of fruit, many of which measured the past season four inches in circumference, without the slightest attention to culture or thinning out. Price \$2 per hundred.

EARLY SCARLET, LATE BOURBON PINE, LARGE EARLY SCARLET, price \$1 per hundred.

These three kinds are those from which gardeners generally supply our market.

Roseberry, Downton, Grove End Scarlet, Bath Scarlet, Duke of Kent's Scarlet, Raspberry Hautbois, New Black Musk Hautbois, Wilnot Superb, Keene's Imperial, Keene's Large Scarlet, fifty cents per dozen.

MELON, METHVEN CASTLE, new and splendid varieties, \$1 per pair.

The best season for transplanting Strawberries is the latter end of August and September. The plants can be put up and sent to any part of the union. Orders should be sent immediately to

I. I. HITCHCOCK,
Office American Farmer.
RUBARB PLANTS.

We have also for sale RUBARB PLANTS, for tarts, for a notice of which see number twenty-three of the Farmer. Price, for year old plants, 1½ cents each—for two year old or upwards, 25 cents each.

Also, SEAKALE PLANTS, 25 cents each.

THRESHING MACHINES.

The Subscriber would inform the public that he has obtained the patent right for FOX & BORDLAND'S PATENT THRESHING MACHINE, for all the State of Maryland, with the exception of Washington, Frederick, and Montgomery counties, and also for the lower counties of the State of Virginia that lie contiguous to Maryland.

These machines possess several and very important advantages over all other machines, which have been introduced for threshing. The concave bed to this machine is placed upon springs, which enables it to recede from the cylinder when over fed or, any hard substance gets in, this, with the peculiar form of the spikes and the manner of setting them, renders it impossible to break or injure the machine, and at the same time enables it to perform the work with about one-half the power required by other threshers. It can be readily set to shell corn with great facility, and also to break the cornucobs sufficiently fine to feed stock; it is likewise very simple, easily managed, and of the price reasonable, say from sixty to eighty dollars, according to size, or including the horse power complete, from one hundred and sixty, to two hundred dollars. To those counties referred to in Virginia, he offers the patent right for sale to include a machine with each county right. All communications by mail, post paid, will meet prompt attention.

J. S. EASTMAN,
Pratt, near Hanover street, Baltimore.

WANTED,

At the American Farmer Office and Seed Store, all kinds of GRASS SEED, CLOVER SEED, pure SEED GRAIN, and choice Domestic Animals. Apply to

I. I. HITCHCOCK.

STRAWBERRY PLANTS, TURNIP SEED, &c.

The subscribers are now prepared to deliver to order, Strawberry Plants of the most approved kinds, which will be packed so as to warrant their safe arrival at any part of the United States. The months of August and September being the most favorable season for transplanting, it will be well for those who wish to purchase, to give their orders early, and by care in planting, with an occasional watering, fine plants may be produced.

The kinds now on hand are, large Early Scarlet; large dark old Pine, French red Alpine and Faulkner's late Scarlet, at 25 cents per dozen, or \$1 per hundred; large dark musk Hautbois; new black musk do; white monthly; scarlet Linna; Dawnton, Wilnot's superb and Roseberry, at 50 cents per dozen, or \$2 per hundred.

Our nursery is rapidly progressing towards the point destined at its commencement. We have now closely planted about 13 acres with fruit and ornamental trees, shrubs and vines.

TURNIP SEED of various kinds and many other fresh seeds, for summer and fall planting.

SINCLAIR & MOORE,
Aug. 10. Grant street, near Pratt-st. wharf.

BLOODED HORSES, BROOD MARES, AND COLTS FOR SALE.

At the residence of the late Alexander F. Rose, Esq. in Stafford County, Vir.

No. 1. ch. m. FLORA, fourteen years old, out of Miss Dance, by Ball's Florizel.

As the character of Florizel is so generally known, and ranks him among the most distinguished horses of his day, it is deemed only necessary to say, he was the sire.

No. 2. b. m. PET, ten years old, out of Miss Dance, by St. Tammany.

St. Tammany, the sire of Pet, was full brother to Florizel, and bred by Maj. John Roberts, of Culpeper, who purchased him a sucking colt, and, when only three days old, gave for him 100 guineas. When a colt he was put in training by Maj. Roberts, but an accident occurring, was withdrawn from the turf. In point of performance and appearance, his judicious owner esteemed him at that age as promising to be fully equal if not superior to his brother Florizel.

Miss Dance, the dam of these two mares, was by Roebuck, was bred by Col. Dance, of Chesterfield, and is well known to have been one of the finest mares in Virginia. When twenty-three years old, and owned by Maj. Roberts, \$500 was offered for her and refused. The dam of Miss Dance was by Independence, grand dam by the imported horse Centinel, or Flimnap, g. grand dam by the imported horse Janus. Roebuck was by the imported horse Sweeper, son of Mr. Beaver's Great Driver; his dam by the imported horse Bagazet, son of the Earl of March's old Bagazet, son of the Godolphin Arabian.

These two mares are now in foal by Carolinian, a distinguished son of Sir Archy; and out of them are the following colts:

1. a ch. f. three years old, out of Flora, by Lafayette.
2. a ch. f. two years old, out of Flora, by Contention.
3. a b. f. two years old, out of Pet, by Contention.
4. an iron grey, one year old, out of Pet, by W. R.

Johnson's Moley
No. 5. ch. u. Virago, eight years old, by Wildair, dam by the imported horse Hamilton, grand dam by Spread Eagle. Wildair was by Ajax, and bred by Col. R. Walker, of Amherst, his dam by Knowsley, grand dam by Highflyer, g. grand dam by old Wildair, g. g. grand dam by Asa, g. g. g. grand dam by Aristotle, g. g. g. g. grand dam the celebrated running mare Hlexiford.

Out of Virago, is a fine two year old filly, by Contention, and she has now by her side a beautiful bay filly, by Governor Barbour's imported horse Young Truffle, and is now in foal by Carolinian.

No. 4. ch. m. Nettle, seven years old, full sister to Virago, has now by her side a fine colt, by Young Truffle, and is now in foal by Carolinian.

No. 5. ch. m. Cora, six years old, full sister to Virago and Nettle, and in foal by Carolinian.

Out of Cora, is a beautiful ch. f. one year old, by Contention.

Application to be made to the Executors of Alexander F. Rose, deceased, Fredericksburg, Virginia.

Aug. 10. 2ms

TALL MEADOW OAT GRASS SEED.

Just received and for sale at the American Farmer Office and Seed Store a quantity of Tall Meadow Oat Grass Seed of this year's growth. Price \$2.50 per bushel. Address, I. IRVINE HITCHCOCK.

ORCHARD GRASS SEED—Fresh, at \$2.25 per bushel, for sale as above.

ORCHARD GRASS SEED.

100 bushels Orchard Grass Seed, just received and for sale by
SINCLAIR & MOORE.
Sept. 7.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—A further decline will be noticed in flour. The wagon price of Howard street, however, remains about the same as last week, \$5.75.—Wheat and rye remain the same, whilst corn has advanced in consequence of a scarcity of the article in market. In other articles we have no change to notice.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 385 hhd. Md.; and 2 hhd. Ohio.—Total 387 hhd.

Flour.—best white wheat family, \$7.25 a 7.50; super Howard-street, 6.00 a.—; city mills, 5.75 a 6.00;—Susq. — a.—; CORN MEAL bbl 3.50; GRAIN, best red wheat, \$1.05 a 1.07; white do — a.—; Susq. — a.—; CORN, white, 70 a 72, yellow 71 a 73; RYE, 70 a —; OATS, — a 35.—BEANS, 75 a 80.—PEAS, 65 a 70.—CLOVER-SEED — a.—; TIMOTHY, — a.—; ORCHARD GRASS 2.00 a 2.25.—Tall Meadow Oat Grass — a.—; Hurd's 75 a 87½.—Lucerne — a 37½ lb.—BARLEY, — FLAXSEED 1.50 a 1.62.—COTTON, Va. 5a10½.—Lon. 9 a 18.—Alab. 8 a 11½.—Tenn. 8 a.—; N. Car. 8 a 10.—Updand 8 a 11½.—WHISKEY, hhd. 1st p. 50 a —; in bbls. 32 a 33.—W. CO. L. Washed, Prime or Saxony Fleece 45 a 50; American Full Blood, 35 a 42; three quarters do. 33 a 38; half do. 30 a 33; quarter do. 28 a 30; common 25 a 28. Unwashed, Prime or Saxony Fleece, 25 a 30; American Full Blood, 22 a 25; three quarters do. 20 a 22; half do. 18 a 20; quarter do 16 a 18; common, 16 a 18 HEMP, Russia, ton, \$210 a 215; Country, dew-rotted, — a 7c. lb. water-rotted, 7a 8c.—Feathers, 37 a.—; Plaster Paris, per ton, 4½ a 4.25; ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 53.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5 00 a 5.50.—Oak wood, 3.37 a 3.75; Hickory, 4.50 a 5.00; Pine, 2.25 a 2.75.

CONTENTS OF THIS NUMBER.

Editorial; Sultana Grapes; Autumn Strawberries; State of Agriculture.—The Farmer of Mount Vernon—Vegetable Curiosities in Cuba—Account of an Agricultural Expedition, Undertaken during the Spring of 1832, by John D. Legare, Esq. Editor of the Southern Agriculturist, continued.—Nari: Beneficial Effects when used as Manure—Time of Planting Cotton.—Mr. Russell Bronson on the Culture and Cure of Madder.—On the Culture of Garden Grapes—Advantages of Sowing certain Garden Seeds in the Fall—Description of the Bayberry or Wax-bearing Myrtle, its use.—Exotic Plants, cultivated in the open border—Tomato, extract from an old work, Gerard's Herbal.—On the Management of Milech Cows, Milking, &c.—Management of Hogs—Advertisements—Prices Current of Country Produce in the Baltimore Market.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the office, basement of Barnum's City Hotel,) by I. IRVINE HITCHCOCK.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, SEPTEMBER 28, 1832.

DALIAS.—We really wish our cottage garden was located nearer town, that the citizens generally might have an opportunity of seeing our splendid bloom of dahlias. Those who have never seen this flower, and very few have ever been seen in Baltimore, can form no idea of their splendor and magnificence. The flower is formed very much like a large *camelia japonica*; there are single, semidouble and double varieties; and all sizes, from a disk of two to six or seven inches diameter. Their color comprises every shade, from the purest white up to the deepest black crimson. We have about thirty varieties and about twenty of them constantly in bloom, affording a display altogether unequalled by any other garden plant. Besides this, we have succeeded in producing several splendid new varieties from seed, among which are two very superior semidouble black crimson. The colors of the dahlias are remarkable for their brilliancy and clearness—nothing dull or common-place in them.

The cultivation of dahlias has been hitherto very unsuccessful in this city and neighborhood; attributable, as we know from experience, to our following the directions of English gardeners, who direct us to put them in poor sandy soil. This may be necessary in England, where the climate is not so subject to excessive droughts as ours. We practised upon this plan for several years, and never obtained a flower worth looking at. This year we went to the opposite extreme; dug a deep trench, filled it with rich vegetable mold, stable manure, and door yard scrapings, with a moiety of good garden mold, and planted them therein, giving them no further attention than keeping down the weeds. The consequence has been, the splendid bloom above described for two months past.

MALE MAELURA.

Philadelphia, 14th Sept. 1832.

Mr. SMITH:

In your paper of the 27th July, we observe an editorial remark concerning the male Maclura which was exhibited by us before the P. H. Society.

The Society reports thus: "Branches of the Maclura, male and female in flower; the male plant hitherto unknown to cultivators, has been discovered on the grounds of the late Mr. McMahon, which have recently come into their possession." You remark, "This is a great mistake. The male maclura, as well as the female, has been under cultivation and for sale at Princes' nurseries, at Flushing, for some years."

The assertion is boldly made, and of course your authority must be of corresponding strength; will you please to inform us whence it is derived? Has Mr. Prince ever exhibited or shown to any one his male maclura in flower? or has he ever described it? Or have you considered the mere discovery of the name in his catalogue sufficient to ground your *ipse dixit* on? The public was perfectly aware of it flourishing in the latter.

It has been known for many years, both in America and Europe, that a male to that species did exist, but all has responded where is it? knowing well that a name is not a substance.

These remarks would have been made on the receipt of the paper. The interim has been partly occupied in trying to find out our error; but the result has been stronger confirmatory proof of our opinion.

You will confer a favor upon us by answering the above through your publication, as soon as convenient. And you may rely that it will give us the greatest pleasure to find out—even our own errors.

We are, sir, your respectful subscribers,

HILBERT & BOIST.

REMARKS BY THE EDITOR.

We publish the above letter of Messrs. Hilbert & Boist with sincere regret. They could have called on us for the evidence on which we founded our assertion, in respectful terms, and thus have effected their object just as well as they possibly can by the language and insinuations they have thought proper to resort to. Had they confined their communication to the impeachment of our own editorial conduct, we should have allowed them the use of any terms they might have thought proper to use, without hesitation; and we only now admit their communication entire, because we are abundantly able to defend both ourselves and Messrs. Prince from their attack, and thus prevent further controversy on this subject.

Our authority for asserting that "the male maclura has been under cultivation and for sale, at the Messrs. Princes' nurseries, at Flushing, for some years," was derived from personal knowledge. *We saw it there.* Besides this, we knew it was there from evidence as authoritative as our own senses could furnish—the gentleman from whom the Messrs. Prince obtained it, *ten or twelve years ago*, informed us several years since that he had sent it to them, and proposed to send us some of them in exchange for some of our female macluras. As he had a large number of males but no females. This gentleman was one of the first that obtained the maclura from the original discoverer, and his plants were all males, while another gentleman (of Baltimore) received females. The original discoverer also distributed a great number of the plants among gardeners and amateurs in different cities.

As to the question, "Has Mr. Prince ever exhibited or shown to any one, his male maclura in flower?" We answer, *he has.* He showed the flowers of the male maclura to Dr. Felix Pascalis, of New York, in June, 1831, which gentleman agreed with him that it was of the same family as the mulberry, and a *male flower*. He also sent a drawing of the male flower, accompanied with minute details, descriptions, and drawn dissections, to Mr. Loudon of London, editor of the Gardener's Magazine, a year or two since, and we have now before us the original letter of Mr. Loudon, acknowledging the receipt of the drawing.

The following facts on this subject, we extract from a letter now before us from Wm. Prince & Sons:

"You will see an acknowledgement by Loudon in his Magazine, about three years ago, of having received the male maclura from us. You will find the male for sale in France, and announced in several French catalogues at ten francs each, propagated from the trees long since sent them by us. You will also find it announced for sale in many *English catalogues*, propagated from trees sent by us. It has also been in the garden of the London Horticultural Society for years, to which it was transmitted by us. In fact the original trees sent by us are now to be found in a great number of the botanic gardens and nurseries of every part of Europe. We showed you (the Editor of the American Farmer) several of the large trees and quantities of smaller ones last fall when you were at Flushing. We received our male maclura trees from Gen. Forman, [of Cecil county, Maryland,] they were then, ten years or so ago, two to two and a half inches in diameter, and were sawed off in order to send them. The largest we have now are young ones, shoots or layers from the originals received from him."

The largest of the young trees spoken of in the above extract, now measures fourteen inches in circumference, two feet from the ground; is full twenty feet high, with a large spreading top. Having noticed this tree particularly, the Editor of the Farmer can point out the exact situation of it in the garden at Flushing.

Messrs. Princes have also many maclura trees reared by them from seed transmitted to them from their native locality. These have not flowered, however, but of course they comprise both sexes. "But," say

Messrs. Princes in the letter from which the above extracts are taken, "*we have hundreds of trees of both sexes, propagated from trees we know to be of the respective sexes.*"

General Forman, of Cecil county, Maryland, has a long hedge of the male maclura.

The above we hope will vindicate us from the charge of founding our assertion upon the simple fact of the male maclura appearing in Messrs. Princes' catalogue. Though, even if we had no other authority, we take occasion here to say, in vindication of these gentlemen from the charge implied by the remark of Messrs. Hilbert & Boist, which we have permitted to go to the public through our columns, that the appearance of the name in their catalogue would have been good authority for our saying they had it for sale. We spent six days in examining the Messrs. Princes' establishment, and we did it thoroughly, with their catalogues in our hand, and found, that they not only had the articles enumerated in them, but hundreds not in them. Of some articles the saleable plants were exhausted, but they could always show us stock plants kept to propagate from. Indeed we found their catalogues sustained to a degree we had almost deemed impossible.

We have thought it no more than our duty thus to vindicate our editorial integrity from what all men must consider a most rude and unprovoked attack; and take occasion here to remark that we consider it as much our duty to correct such mistakes as the mere correction of which Messrs. Hilbert & Boist have taken offence at, as any thing else, and we shall continue to perform that duty. We must also observe that nothing further will be allowed to appear in our columns on this subject (nor indeed on any other), unless perfectly free from personal and indecorous language.

A Golden Rule.—Industry will make a man a purse, and frugality will find him strings for it.—Neither the purse nor the strings will cost him any thing. He who has it should draw the strings as frugality directs, and he will be sure always to find a useful penny at the bottom of it. The servants of industry are known by their livery; it is whole and wholesome. Idleness travels very leisurely, and poverty soon overtakes him. Look at the ragged slaves of idleness, and judge which is the best master to serve, industry or idleness.

FOREIGN MARKETS.

LIVERPOOL, Thursday, Aug. 16.

The import of all sorts of Cotton into the Kingdom this year is 662,800 bales against 959,709 bales last, being an increase of — bales; and in American sorts separately of 19,200 bales. Last week buyers took sparingly and made several attempts to break down prices in which they obtained perhaps 1-8d in some cases. This week the character of the market has been much the same; generally steady, but here and there a concession on low qualities of 1-8d. The sales of the last six days are about 8000 bales, total of last week 13,980 bales.

The weather is fine for harvesting and our Corn markets are lower.

P. S. The sales of Cotton yesterday estimated at 4000 bales—we quote Upland 5-8 s a 7d; Orleans 6 s a 8d; Mobile 5-8 s a 7 1-8 s; Sea Island 10 s a 12 s, 13 s and 18 s.

The Grain market has been steady, with a moderate demand for the best descriptions of Wheat, at an advance of 1d to 2d per 70 lbs. 1000 bbls. of New Orleans superfine, sour, have been sold at 17s. per bbl. in bond.

THE HARVEST.—The wheat harvest has commenced, we find from the papers and private letters, very generally throughout England; it is both good in quality and abundant. Other crops are also being taken in, in the same excellent condition.

AGRICULTURE.

(From the Virginia Farmer.)

MANURES.

MESSRS. EDITORS: *Spring Hills, Sep. 8, 1832.*

Although there are many able hands engaged in furnishing the Agricultural papers of the day scraps upon the nature, making and applying manures, I feel disposed to set down a little of my practice in that line for the Virginia Farmer, thinking it probable that the importance of the subject has not been generally seen by our Farmers here about. For truly I deem it a business of the first consideration in our part of the country, where the best farms have a large portion of poor land that ought to be brought into profitable cultivation. If I were to attempt to answer the question so often asked, "why are farmers of this part of Virginia generally, so far in the back ground?" I should say that, next to good management, generally, it is owing mainly to the shameful neglect in making and applying manures. Many farmers within the small circle of my acquaintance, have their ground divided into three shifts, these are doomed to be ploughed and scratched from year to year, allowing it no time to stand in grass, and indeed some never had the honor of a seeding with artificial grass; yielding less and less every year, having no benefit of manure in any way except what is dropped by the cattle, while grazing off the scanty herbage allowed to come, until they will scarcely produce a crop worth the labour of planting. Talk to these farmers about making five fields of their farms—"O, I should starve. I can hardly make out now, and what should I do, if, instead of cultivating half or a third of my ground, I cultivate one fifth?" Talk to them about making manure, they will tell you they make all they can of such materials as they have, and quite likely they never haul their corn stalks from the fields, or so much as a few loads of leaves from the woods, and commonly, in winter their cattle are fed in an open field, and through the grass season suffered to run at large, day and night; not penned at night except the milch cows. They say they have not time to do these things, and truly I believe the big field, and big farm mania does in a measure, put it out of their power. I have been told by some, that they had a quantity of manure at their stables, but such was their press of business, that they had not time even to carry it out. But I am departing somewhat from the subject proposed, which was to offer a little of my practice, &c. which though not the best, may be of service to some who are setting out upon the plan that I commenced farming upon. For I thought it would be useless for me to attempt to make manure to restore all my exhausted land. So I must depend upon rest and good ploughing, and if possible a coat of grass and weeds turned under. But I found that what little would grow upon poor land, when ploughed in, turned out to be mostly water or something not much better. So I determined to make manure.—And I will now tell you, in part, how I do it.

I will speak first, of my winter fixtures, which are composed of three lots, (I intend to add the fourth) in order to divide the cattle according to their age, condition, &c. all of which are provided with permanent shelters, of size sufficient for the number of cattle commonly kept in each lot. It would be better if all these lots were concave in the centre, but mine are only level, and in fact some on a gentle declivity. In order to have them winter quarters ready for the reception of the stock as soon as the grazing season is ended, I lose no time after the fall of the leaf, that can possibly be spared from gathering corn and seeding wheat, until they are well supplied with litter from the woods; and if I do not cover the leaves with ditch bank, or surface earth of some sort, I lay on a covering of corn stalks to guard against the winds blowing off the leaves. Corn stalks are carefully sa-

ved and mostly used for this purpose. The cattle are then put up in their winter quarters, and there kept night and day, except so long as is necessary to go to water once a day. If the forage given should not keep the lots sufficiently littered, (which with me never happens.) I take care, from time to time to supply it from the woods. I would observe here, by way of digression, that I never suffer stock of any kind to go in winter upon any tilling land I have. The injury done by treading in winter is considerable. As the object is to get the contents of used lots upon the corn land in spring I frequently have the whole mass stirred up, and properly mixed together, and the oftener this is done the better. It can be expeditiously executed by means of a long single colter fixed so as to take the ground freely. In relation to the manure made from my stables, I do not carry it on the cattle yard, as practised by some, but endeavour to keep it as dry as possible, until it is to be applied to use. Though if my lots were so arranged as to lose none of the ley by heavy rains, I might do so.

I come next to speak of summer lots, or cowpens. These I have in a strip of woods left for that purpose at a place so located as that I can take the cattle in from every field I have. They are three in number, one for calves and yearlings, the other two for a change of all the balance of the cattle, whenever one lot is either ready to cast out or becomes too wet and filthy for the health of the cattle. In order to have these ready for the stock when let out to graze in the spring, I employ all suitable times in winter, after the crop of corn is secured, in collecting leaves, rotten oak wood, weeds, &c. until completed; for if this work is deferred until wanted, I find it difficult to spare time to get a sufficiency. Indeed this is the principal part of my winter labour. For when the lots are sufficiently supplied for the present, we pile up more in the lots to have it ready to spread out when the other is trod enough. Thus, having this start, I can find time along in summer to supply the then deficiency. It is desirable to have the contents of these pens ready to go out upon the wheat. To that end, the oftener they are worked over, as before observed, the better, provided there be an abundance of litter furnished. When the cattle first go to grass in a field, my custom is to have them let out their pens about 7 o'clock, A. M.—drove up again at 10—let out at 3 P. M. where they remain till 6, and are then brought up for the night. And when the pasture has pretty much declined, they are let out their pens after breakfast and suffered to graze until late in winter, and by frequently giving salt in the lots, keeps them pretty much in motion, which favors the end in view. It might be proper to give some statement as to the amount of stock kept and the quantity of manure made. As to the stock, I can state that my number of horses, for the last four or five years has varied from four to six, at present four. Horned cattle from thirty to thirty-five. Sheep, none. As to the quantity of manure made, I cannot say, but would suppose from three to four hundred loads, or perhaps more.

Thus I have mentioned the means used to raise most of the manure. However, there are some other savings which help out, say the hog pen, into which I cast a quantity of litter and surface earth, which would be best if composed, pretty much of fine sand. I also have a pit or hole, which receives the draining from about my stables.—This is frequently supplied with road scrapings, or any light earth, which makes a good manure for light land.

You see my paper is out, and perhaps it is well, for when I begin upon this subject, I have no other stopping place.

Most respectfully,

JAMES T. JONES.

Why should potatoes and similar roots be stored with the earth adhering to them?—Because they are thus kept damp, whereas by removing the earth, the little fibres by which it is retained are wounded, and the evaporating surface is increased.

(From the Genesee Farmer.)

CHESS.

Ledyard, 9 mo. 6, 1832.

My method of destroying chess promises so well that, though it is somewhat singular, I venture to communicate it.

My fields (of about 80 acres) have not been cleared long enough to become foul with chess, but otherwise, with the same negligence, they would be as likely as any others to be overrun with it.

Four years ago, my seed wheat was carefully sifted, and the crop from it was proportionably clear of chess. While the chess heads were green, that weed and others were pulled out of the field. Very little chess could be sifted from the seed that time; and a careful search for the few plants of this weed which grew in the next crop, left the seed so clean that sifting was unnecessary.

This year a middling crop of wheat on ten acres was weeded out with about three days' work. The wheat from that field, when twice through the fanning mill, is the cleanest I ever saw.

So firm is my disbelief of the transmutation doctrine, that I confidently expect, by the evidence of facts only, to establish a "CONCLUSION" against it, "from which," as Judge S. Thompson says, "IT WILL BE DIFFICULT TO ESCAPE."

N. DENNIS.

(From the Southern Agriculturist.)

ON THE CULTURE OF WHEAT.

"Rocky Grove, Abbeville District, 9th April, 1832."

Dear Sir,—In compliance with your request to communicate to you such observations and remarks on agricultural subjects as my experience may suggest, I forward you an extract from my note book on the cultivation of Wheat. The style is laconic, and seemingly dogmatical, but it was never intended for the public eye. The opinions expressed have been formed upon careful examination and minute observation, and minutened down for my own government as the result of my own experience; for I am one of those old maidish farmers, who keep a note book, in which I enter such remarks on agriculture, from time to time, as occurrences present to my mind, and which I occasionally refer to. If such extracts are acceptable to you, I may, as occasion offers, forward you more of them. You are at liberty to make such use of the present as you think fit.

"Having raised crops of the different kinds of wheat cultivated in this section of country; in future sow the Haley wheat for an early crop, and the Lawler for a late one. The former is generally harvested the last of May, the latter about the middle of June. The Haley wheat does not make as white flour as the Little White wheat, but it does not require as strong land. The Lawler wheat makes very white flour, is a sweet wheat, and yields to the quantity of grain more flour than the other late wheats. The early wheats are frequently injured by late frosts in the spring, the late wheats by the rust in the summer before harvest. To insure, therefore, a plenty of wheat flour for family use, sow both Haley and Lawler. The Haley wheat may be sowed on as strong land as you please, whilst on very strong land the Lawler will, even in a moderately wet spring and summer, grow too rank and much of it fall down.—Sow the Haley from the middle of November to the middle of December, if sown on strong land not before the first of December, or the danger from late frosts in the spring will be considerable. Sow the Lawler in October, the middle of the month is a very good time; if sown earlier, there is danger to the crop from the fall fly, if sown later than October, the rust is to be apprehended. The practice of ploughing in the seed deep, though better than that of barely scratching in the seed without previously breaking up the land deeply, is nevertheless erroneous; for seed

ploughed in deep will come up irregularly, and the wheat will ripen irregularly, and a loss will be sustained thereby. It is said, that the deeply covered wheat stands a severe winter best, as the roots are so much deeper in the ground. This is a mistake, for when the deeply covered wheat gets up it forns new roots near the surface of the ground, and its former deeply covered roots first get mouldy, then die and soon rot. The true reason why deeply covered wheat stands the winter best is, that the ground being *teel and deeply broken up*, the wheat crop derives the same advantages therefrom that all other crops do: the winter frosts find the wheat more forward, stronger, and better rooted, although the roots where they spring from the stalk, are no deeper under ground from deep covering than from shallow covering. In preparing to sow wheat, first break up the ground deeply and thoroughly with the plough, the deeper the better; then lay off lands ten or twelve feet wide across this ploughing; sow thereon broadcast a bushel of Lawler, or three pecks of Haley to the acre. By the sowing Lawler thus thick it is induced, I am disposed to think, to shoot up earlier in the spring than it will do if it is allowed too much room to stoal, and by bringing it forward early as possible, there is less danger of its taking the rust; at any rate, if the land is good for any thing, a bushel is not too much. So, also, as it is important to sow the Haley sufficiently early in the fall, as that it may gain strength before the severe winter frosts set in, and equally important to prevent it from running up too early in the spring for fear of a late frost, three pecks to the acre is sufficient, as this will give it room enough for stoaling and according to the opinion I have formed will backen it somewhat. When the seed is sown, plough it in lightly and level the ground with dragging a bush over it, or harrow in the seed with a large heavy harrow, drawn by two horses. Respectfully, your obdt serv't.

THOMAS PARKER.

(For the American Farmer.)

JERUSALEM ARTICHOKE—INDIAN CORN.

In treating of the Jerusalem Artichoke (*Helianthus tuberosus*), GERARD has judiciously remarked, that "one may wel by the English name of this plant perceive that those that vulgarly give names to plants have little either judgements or knowledge of them: for this plant hath no similitude in leafe, stalk, root, or manner of growing with an Artichoke, but only a little likeness of taste in the dressed root; neither came it from Jerusalem, or out of Asia, but out of America."

Indian corn is given under the names of "Turkie corne" and "Turky wheat;" and from those names some *searans* have drawn an argument that it was brought from Turkey into the west of Europe; but GERARD, who wrote only about one hundred years after the discovery of America, and who was born within fifty-three years of that event, says "These kinds of grain were first brought into Spaine, and then into other provinces of Europe: not (as some suppose) out of Asia Minor, which is the Turkes dominions; but out of America and the Islands adjoining, as out of Florida, and Virginia or Noremburg, where they use to sow or set it to make bread of it, where it grows much higher than in other countries. It is planted in the gardens of these Northern regions where it cometh to ripenesse when the summer fall eth out to be faire and hot, as my selfe have seen by proof in myne owne garden."

"The Nimes.

"Turky wheat is called of some *Frumetum Turcicum*, and *Milium Indicum* as also, *Maizum*, and *Maiz*, or *Mays*. It in all probability was unknowne to the antient both Greeke and Latine Authors. In English it is called Turky corne, and Turky wheat.—The Inhabitants of America, and the Islands adjoin-

ing, as also of the East (!) and West Indies, do call it *Mais*: the Virginians *Pagatoor*.

"The Temperature and Vertues.

"Turky wheat doth nourish far lesse than either wheat, rie, barley, or otes. The bread which is made thereof is meanelly white, without bran: it is hard and dry as Bisket is, and hath in it no clamminesse at all; for which cause it is of hard digestion, and yeeldeth to the body little or no nourishment; it slowly descendeth, and bindeth the belly, as that doth which is made of Mill or Panick. We have as yet no certain proofe, or experience concerning the vertues of this kinde of corne; although the barbarous Indians, which know no better, are constrained to make a vertue of necessitie, and thinke it a good food: whereas we may easily iudge that it nourisheth but little, and is of hard and euill digestion, a more convenient food for swine than for man."

These notions of the unwholesomeness of Indian corn have been well preserved in England from Gerard's time down to the present, if we may judge from certain articles which have appeared in the English papers, respecting Cobbett's introduction of this grain into that country. Gerard's experiments were probably made with the corn that grew in his own garden; and on the half ripened produce of that ungenial climate, no remarks will be necessary, for the inhabitants of the United States after the experience of two centuries, have arrived at a very different conclusion. It appears, however, that Gerard's experiments must have been very loosely conducted when he declared it to induce costiveness: a physician of my acquaintance has often employed it for a contrary quality.

HORTICULTURE.

(From the Southern Agriculturist.)

AN ADDRESS DELIVERED BEFORE THE HORTICULTURAL SOCIETY OF CHARLESTON, AT THE ANNUAL MEETING, JULY 11TH, 1832.

BY DR. S. H. DICKSON.

MR. President, and Gentlemen of the Horticultural Society!

In the performance of the duty allotted to me, of preparing the first annual address, I labor under the disadvantages of a want of experimental acquaintance with the themes, which it would seem, in order, on this occasion, to discuss. Though somewhat familiar with the interesting details of vegetable physiology and a most enthusiastic florist—if that term may be properly applied to designate one, who is rather an admirer than a cultivator of flowers—I must confess myself to be neither a practical gardener nor scientific botanist. Nevertheless, yielding to no one, either in a fondness for the pursuits which unite us, or in a due sense of their real value, I will endeavor to lay before you a brief sketch of the objects, at which, in my view, such an association should aim—the inducements to engage and persevere in our undertaking, and the pleasures and benefits belonging, as well to its prosecution as to its ultimate success.

It would not, perhaps, be easy to define with exactness the several provinces of the agriculturist and the gardener. The cultivation and improvement of flowers, ornamental shrubs, and fruits, properly so called, would, of course, be left to the latter; but, in respect to an extensive class of vegetable productions, esculent, or otherwise useful, some fall in one domain and some in the other. Speaking, in a general way, the sphere of the horticulturist is more limited in its extent, but greater nicety is demanded in his operations. To his care are confided the more delicate and rarer plants—such as require in their culture constant attention and special protective guardianship. To the agriculturist we look for clothing, and the provision of substantial and nourishing food. Our necessities require him, therefore, to provide on a large

scale, and in profuse abundance. The gardener, on the other hand, prepares for us articles of mere luxury—viands, less adapted for subsistence than the gratification of a refined taste, and of the instinctive fondness for variety—objects of decoration and ornament, rather than of supply or shelter. But it would be unphilosophical, unwise, and irreligious, to regard his occupations as unimportant and useless. He, "who made all nature beauty to the eye, and music to the ear," created all things animated and inanimate, to be subservient to the destinies and desires of man.—He placed him, at his birth, in a garden; surrounded and shaded him with

"All trees of noblest kind for sight, smell, taste—
Flowers of all hue, and without thorn, the rose."

And fed him with "ambrosial fruit of vegetable gold." He takes a parental delight in our appropriation of every additional mode of enjoyment, which is not purchased at the expense of some dereliction of duty, or some breach of moral propriety.

Our association would be unworthy a protracted existence, if it did not, from the beginning, use every efficient effort to introduce and foster here, as extended a diversity of nutritious vegetables as can be adapted to our soil and climate. All esculents produced under circumstances of soil and climate in any way similar to our own, should be made subjects of careful and repeated experiment. "Nothing is denied to well directed labor." No difficulty is insurmountable. Let but the object be of sufficient consequence to justify the expenditure of time and money which will be required to effect it, and ultimate success can and will be almost certainly attained. Is the earth unpropitious or unsuited to the support of the plant we wish to introduce? Artificial soils of almost every quality may be prepared and made to resemble closely enough the natural bed from whence we import the stranger. Is our sky hostile in its immediate influences? Vegetables, like animals, may, I do not doubt, become fitted for any position—may become domiciliated in any latitude. They must undergo an acclimation, it is true, and during this process they are feeble, liable to much injury and disease, and require, for the time, special attendance and protection and skilful management; but, in succeeding generations of plants of the same kind, less and less protection will be demanded, until at last these descendants of delicate exotics will be found to bear exposure as well as the hardiest natives. Nay, there are not wanting examples in which such transplantation has vastly improved the original. I will only instance the potato, one of our most valuable articles of food, which, in Lancashire and Ireland, has attained an excellence undreamed of by those who first found it in the southern section of our distant hemisphere.

I will readily acknowledge that there are extreme cases in which the remarks I have just offered will scarcely apply; but, in a majority of experiments made with proper caution and perseverance, they have been found reasonable and correct. In every situation may be found flourishing freely and sturdily, exotic emigrants, both from arctic and equatorial regions, and it may truly be affirmed, that the limit of vegetable adaptability is not yet fully ascertained. The Peach, supposed to be derived from Persia, is now a stranger no where—civilized man carries it with him into every desert, and plants at the foot of every mountain. Among flowers we may mention the numerous varieties of Rose—a native of the genial and delightful countries of Asia, whose fragrance is to be perceived in every breeze that fans the cheek of beauty in any quarter of the world. The Lagustrima, a splendid flowering tree of recent introduction among us, has adapted itself so readily to this new locality, that it flourishes luxuriantly in every enclosure of our city and suburbs.

It is evident that experiments, based upon these views, must, in the first instance, be tried on a small scale, and managed with a nicety incompatible with

the extended pursuits and varied duties of the farmer and planter—and hence arises the necessity, which will be observed as we proceed, that horticulture should not unfrequently act as the pioneer and land-maid of agriculture.

With regard to fruits of fine flavor or particular delicacy, successful cultivation of rarities of this kind is every where so liberally rewarded by private luxury, that the expense of fabricating an artificial climate and fictitious soil for this purpose, will, in all probability, be abundantly compensated. Yet the Society has done well in offering some definite encouragement, which may serve at least, to give reputation to the enterprising gardener, who shall introduce any estimable novelty, or who shall overcome, by his assiduity, the difficulties of season and temperature, in the early procurement of a familiar or indigenous vegetable. If the most useful of citizens is the farmer, because he makes two blades of grass grow where one grew before, neither can the gardener be destitute of merit who extends the period and augments the number of innocent gratifications.

But the very highest pecuniary inducements, within the resources of the Society, should be addressed to adventurers, whose success would confer a great public benefit, and, in cases where the experiment to be properly made, implies considerable risk and outlay, and requires time and patience as well as industry and energy. Thus, if any one should prevail in domesticating the Olive, the rich present of the goddess of wisdom to her favorite Attica, among us, he would surely be regarded as a public benefactor. This tree, which Jefferson justly esteemed as one of the kindest gifts of Providence to man, and considered, with reason, as probably more valuable than any individual, even of the bread stuffs, would seem from all the circumstances of its history, to be fairly within our reach, provided the effort to make it familiarly our own, be carried through with a due degree of perseverance and patient attention. I cannot help thinking the abandonment of our hopes from it, and the indifference which now exist concerning it exceedingly censurable. It seems to have been forgotten, that the trees, in their most favorable location, are of peculiarly slow growth; they do not begin to render good crops before they are twenty years old; proving the justice of the epithet bestowed by the poet upon this vegetable glory of Italy and Spain, when he designated it as the "*tarda crescens Oliva*." What then can be looked for in regard to it from the inhabitants of a country, one of whose orators has said truly and forcibly, that "no man expects to die in his father's house!" A country in which property fluctuates more and changes hands faster than it ever did in any other nation or any previous age. A private citizen will not here give his time to, or risk his money in a scheme of which the results are in themselves doubtful, and of which it is probable, there being no return until a date somewhat distant, that neither he nor his children will reap any direct advantage. Such an enterprise, then, must be instituted by public men, or by associations like our own, and at a joint expense, and with the view of benefitting not ourselves, or even our immediate descendants, but our common country. Of the utility and importance of this addition to our productions, I need say nothing, they are matters of familiar calculation; the chances of ultimate (though perhaps remote) success, I consider fair and promising. It is affirmed that wherever the Orange will grow at all, the Olive will stand better, being the hardier of the two.

If we have not here the mountain shelter, behind which it flourishes on the shores of the Mediterranean, we can afford, by our forests, which still overshadow so large a portion of the surface of our country, a protection almost equally available. Evergreens, it may be remarked in passing, which abound in our low country, are found, not only to give protection to fields or lawns which they surround, but are affirmed also to generate, by the processes of life and vegetation,

never suspended in them, but always active in every season, a notable degree of heat, by means of which they temper the keen winds whose force they have mechanically broken. Surely this fact ought not to be lost upon us. A suggestion has been repeatedly made, though I do not know whether even yet acted on, that there are certain stocks of indigenous growth, upon which the Olive when engrafted will grow readily and produce abundantly—among others, the *Fragaria crinis*, has been named. I would respectfully propose the early consideration of this subject, and an appropriation of the largest sum that can be set apart from the funds of the Society—that this sum be invested as to produce an annual and so a compound interest—the whole accumulated amount to go to the individual who shall first succeed in the cultivation of the tree—the procurement and preparation of its fruit and the manufacture of oil.

Similar efforts might, perhaps, be successfully made, if made perseveringly, and on a proper scale with the Breadfruit, the Banana and the Plantain; at least it will hardly be denied that the attempt is worthy the time, labor and expense which might be required. So many favorable circumstances must concur to render the cultivation of the Coffee tree feasible, that we cannot hope to see it growing in the open air in any part of our country north of Florida, if indeed, it be practicable there. But the construction of hot-houses, and the production of artificial heat may be so cheaply managed, that it is matter of fair question, whether, under the vastly increasing demand for this delightful berry, and the contracted limit of its ordinary and natural supply, arrangements for the perpetual production of its fruit in this way would not become profitable. Such culture has been long familiar at Mount Vernon, and if I am not misinformed, the success is complete in the ripening of coffee of high and excellent flavor.

There would seem to be no difficulties of any kind in regard to the growth of Tea, which could not be overcome with a little effort of patient toil. The beverage prepared from the infusion of its leaves, is used familiarly by greater numbers of the human race, probably, than any other liquid, if we except ardent spirits; for which, if we could substitute these "cups that cheer, but not inebriate," we should "do the state a high moral service." A pecuniary recompense which should merely save the experimenter from actual loss, might open the way here for important results.

A more humble set of examples, of like nature, may deserve brief mention. The Gooseberry and Currant have resisted hitherto all attempts at domestication among us—we have not the beautiful yellow Strawberry, (from the hue of which, perhaps, the name obtained) many of the best varieties of the Cherry and the Plum are neglected, and the Quince has been allowed of late to become rare. Should not these be at least enumerated among the fruits we propose to encourage and foster by our patronage.

Nor should the Society in the mean time lose sight of the prospect of improvement in quality of the articles already enjoyed by us. The attention of our gardeners should also be directed to the points of economy in mode of culture and abundance. To raise the greatest quantity of the best kind—to produce successive crops for the longest period and at the least expense; these are the problems to be solved and the conditions of their solution.

Stimulated by the hope of gain, or of reputation, may not some one teach us to make a better use of the numerous and delightful fruits profusely scattered throughout our gardens. Is it impossible to dry here, as in eastern countries, or otherwise prepare the Fig, which drops its luscious sweetness from overloaded branches, and rots in heaps for want of the knowledge of means for preserving it? Shall the clusters of the Vine always perish, mocking us as they do now with the hope of exhilarating and delicate wines. Perhaps this subject may seem to you already threadbare, and indeed the public attention has been for some time

past very steadily directed to it. Much disappointment has been experienced, and a degree of indifference has naturally begun to be substituted for former sanguine expectations. I cannot help thinking, however, that the period is at hand when we shall derive the most valuable results from the efforts made and making. Most of the difficulties which have presented themselves, appear to me to arise from the prevalent error of procuring our vines from countries whose summer temperature is lower than ours, and whose seasons are shorter. We are naturally tempted to this by the reputation which such species have attained; but they are entirely unsuited to our climate and atmosphere. The Grape is forced by the unaccustomed heat of our spring; it ripens rapidly and must be plucked in the months of highest temperature and greatest moisture; the juices set to ferment run promptly through the vinous into the acetous condition, or are only checked in this destructive process by the infusion of large proportions of fiery spirit, which alter their quality and ruin their flavour. It is, as I have said, from countries cooler than our own that we import our wines. France, for example, and Germany for the most part. I know of no experiments made here with those of Palestine in our own latitude, or Greece, or the South of Italy. Yet the wines of this latter region are of great diversity, and of flavour unexcelled. We might encourage experiments with these—or we might import from the tropical districts of our own continent, grapes that being repelled would ripen more tardily here, and afford us potable wines, thus giving a new value to our poorest lands. But why need we seek abroad for the vine which grows over the whole surface of our State, in every swamp and on every water-course. It attains no where a larger size, nor does it produce any where fruit in superior abundance. Within two miles of our city there flourishes a vine of greater circumference and diameter than any of which I can find a record either in the old or new world.* Nothing would seem to be wanting but the gradual improvement of this native stock by culture through successive generations. Does any one suppose the sparkling Champagne, the soft Burgundy, or the exquisite Lacryma Christi, was fermented from the juice of the wild grape of France and Italy. No! It is to the long and laborious cultivation of ages that we owe their present excellence. We must discover what soil is suited to what varieties; what aspects, and what exposures, they affect, at what particular period of maturation they must be plucked; what processes are best fitted to the preparation of their diversified wines. Even in countries where all these points are well ascertained, the vintage is still matter of uncertainty and no crop is regarded as more insecure. We shall never succeed, then, if we allow ourselves to be daunted by difficulties met with every where.

The consequence of this neglect of culture is shewn in the degeneracy of wines formerly highly valued. The reader of Horace will not forget in travelling from Rome to Naples to inquire for the *Falerian* once so much esteemed; but not even his classical enthusiasm will enable him to endure the insupportable acrimony of the acrid fluid so called in modern times.

The Poppy, of which we may exclaim in reference to its medical uses—"Magna Dei donum"—the great gift of Providence—the poppy grows readily here, and its cultivation to any extent would be easy. The very best opium that I have ever seen was made in South-Carolina, and its preparation could not fail to be extremely profitable. Indeed, with very little encouragement our gardeners could make us altogether, or very nearly, independent of foreign countries, in respect to the vegetable *Materia Medica*, and I beg to recommend this topic also to the future consideration of the Society.

* This vine grows at Col. Yeardon's farm on Ashley river. It is of 4 feet 10½ inches in circumference, and completely overlays with its branches and foliage two wide spreading oaks.

(From the New England Farmer.)

SILKWORKS.

We learn, from a friend, that Mrs. PARMENTIER, of New York, has reared two successive broods of silkworms this past season without the aid of artificial heat. The worms of the first crop were fed promiscuously on the *Morus multicaulis*, the *Morus alba*, and on the *Morus macrophylla*, and produced white and yellow cocoons. The latter crop, on the contrary, were fed exclusively on the *Morus multicaulis*, and produced invariably cocoons of a beautiful soft texture and of a snowy whiteness. If these statements be correct, that invaluable tree possesses additional advantages to the other kinds and should be universally used.

(From the Baltimore American.)

CULTURE OF COW PEAS.

Baltimore, Sept. 22, 1832.

GENTLEMEN,—A correspondent requests, on behalf of the growers of cow peas, some information relative to the proper time for ploughing them in, as a green crop. It being a general characteristic of annual plants not to increase in bulk after fructification, and the greatest possible amount of vegetable matter being the object of those who plant cow peas for manure; the period for turning them in is, in my opinion, when the pods are generally well filled, and the earliest beginning to dry. This will be the case, in ordinary seasons, about the middle or latter end of August.

By reference to memoranda, I find that my peas were in the luxuriant state I described in a former communication, upon the 16th of August, 1831. It is of course desirable to turn in, as early as the growth of the vines will admit, that the process of decomposition may be sufficiently advanced to aid the grain in the autumn and through the winter.

The present disastrous year has disappointed my hopes in reference to the extensive experiment with cow peas I promoted in this vicinity. A cold spring, protracted nearly six weeks beyond the average period of vegetation, and a dry and chilly summer so retarded the growth of the pea, on some farms, that proprietors were on the point of abandoning it in disgust; as though the total failure of the corn crop, in several parts of this State and Pennsylvania, would not have furnished an equally plausible argument against the adaptation to our climate of that universal staple of the country.—I should esteem the precipitate abandonment of this exuberant vine worthy to be noted among the calamities of the year, and, in the hope to prevent it, beg leave to intrude among graver topics a very few remarks.

About three hundred yards due north of the Washington Monument, there is now growing a small patch of cow peas planted by Dr. Howard. These are upon *new land*, about half the size of mine, last year, upon a *worn-out soil* which had proved unable to bring rye on a lay of buckwheat; yet these are, in my opinion, equal to an average crop of clover.

These were, upon the 10th of July, scarce six inches in height; mine were, at the same time last year, between three and four feet high, and had branched out in proportion.

These were not in flower on the 13th of the present month; mine were, last year, loaded with full pods a month earlier. Hence I infer that, if the cow pea has not equalled expectation, the disappointment must be referred to the *season*, which no farmer would pronounce an ordinary one.

Having sold the farm on which I made my experiment, I am not able to speak with certainty of the result in the wheat crop which I planted on the peas. A respected and intelligent friend, whose land is adjacent, informed me, previously to the harvest, that the pea field promised as well as any grain on the

place; and one of the present proprietors (Gen. Leakin,) stated that the entire crop was highly satisfactory; though he could not give the particulars of the different fields. As much of the land was in very high order, should it prove that the pea field sustained a fair comparison with the rest, the whole argument might be comprised in that single fact. I can myself testify to its very flourishing appearance till the cold Saturday and Sunday in the latter end of March, when so much grain perished throughout the country.

Very respectfully, your ob't serv't,

WILLIAM GEO. READ.

Why should not flowers in water, and living plants in pots, be kept in bed rooms?

Because the flowers and plants greatly injure the purity of the air during the night, by giving out large quantities of carbonic acid, similar to that which is separated from the lungs by breathing, which is highly noxious. There are instances of persons who have incautiously gone to sleep in a close room in which there has been a large growing plant, having been found dead in the morning, as effectually suffocated as if there had been a charcoal stove in the room.

RURAL ECONOMY.

NEW IMPORTATION OF SHORTHORNS.

We are favored by Mr. Skinner with the following pedigrees of improved Durham Shorthorn cattle, recently imported by William Jackson, Esq. of New York, and consider it of importance to breeders of stock that they should be placed on record in our columns for future reference.

CERTIFICATE OF MR. PILKINGTON.

St. Helen's, near Liverpool, July 1st, 1832.

I have this day sold to Mr. William Jackson, of New York, my two year old bull, Windle, bull calf, Young Dimple, and a gray cow, all of the Short-horned Durham breed, and I hereby certify, that the annexed pedigrees are correct, as witness my hand this 1st day of July, 1832.

RICHARD PILKINGTON.

Windle, a gray bull, calved 5th May, 1830, bred by Mr. W. Pilkington, got by a grandson of the celebrated bull Barnum—Barnum, roan, calved in 1810, bred by R. Colling, Esq., got by George, d. (Moss Ross,) by Favorite, g. d. (Red Rose) by Favorite, gr. g. d. by Punch, gr. gr. g. d. by Fuljame, gr. gr. g. d. by Hubback.

Windle's dam was a remarkably handsome roan cow, got by North Star—North Star calved in 1805, bred by Mr. C. Colling, got by Favorite, d. (Young Phoenix,) by Favorite, g. d. (Phoenix,) by Foljame, gr. g. d. (Favorite bred by Mr. Maynard,) by Mr. R. Alcock's bull.

Young Dimples, a gray bull calf, calved 13th June, 1832, bred by Mr. R. Pilkington, got by Fitz Favorite; Fitz Favorite by Dimples, Dimples by Sir Dimples, by a son of the celebrated bull Comet; Young Dimple's dam a white cow, (lot 36 of Mr. Scotson's sale,) by Young Dimples; Fitz Favorite's dam, Allspice, by Old Favorite, bred by Mr. Newby.

Pedigree of the gray cow Rose—purchased by Mr. Jackson from R. Pilkington, of Windle Hall, was bred by Mr. John Smith, Dishforth, near Northallerton; Rose got by Skipton, dam by a son of Mr. Partridge's Cleveland; his dam by Lord Feversham's Snowdrop; Snowdrop by Naion, out of Skipton, by Greigson, dam Wildem, by Lord Grantham's Snow Ball; dam Old Wild Greigson by Apollo, dam by Windsor, grandam by Cupid.

I also certify that the bull (Windle) then one year and four months old, obtained the premium at the Liverpool agricultural show in 1831.

(Signed,)

RICHARD PILKINGTON.

MISCELLANEOUS.

(From the Southern Agriculturist.)

SKETCH OF THE LIFE OF THE LATE ELLI WHITNEY, WITH SOME REMARKS ON THE INVENTION OF THE SAW-GIN.

Georgia, January, 1832.

Look at this table of the export of cotton from these United States, and the quantity consumed within its limits:

	Bals.
Exported from 1st Oct. 1830 to 1st Oct. 1831,	772,733
Consumed in the non-growing Cotton States, and in the hands of the Manufacturers,	182,142
Total,	954,875
Of which the roller ginned Cotton may be estimated at	27,901
The saw, or Whitney ginned at	926,974
Total,	954,875

Then look at the following extract from an article in the Treaty of Commerce with Great Britain made in the year 1793, by John Jay, during the enlightened and virtuous administration of Washington:

"Provided always, that the said American vessels do carry and land their cargoes in the United States only, it being expressly agreed and declared, that during the continuance of this article, the United States will prohibit and restrain the carrying any molasses, sugar, coffee, cocoa, or cotton, in American vessels, either from his majesty's islands, or from the United States to any part of the world, except the United States, reasonable sea stores excepted."

What a contrast do the two not present! And what higher evidence could be wanting to prove the fact, that the culture of cotton in this country must have been next to unknown, or if otherwise, as an article of commerce, it must have been considered of very trivial importance, that its exportation from these States should have been almost spontaneously totally renounced? Surely causes of no ordinary nature must have concatenated to produce so rapid and vast a growth and increase. And to which of them can be ascribed more importance than the invention and introduction of Whitney's gin? It is the only machine yet devised by the ingenuity of man, which has been found fully adequate to the desired purpose of separating the green seed or upland cotton (which comprises so very large a proportion of the cotton enumerated in the foregoing table) from its stubborn adhesion and tenacity to its seed. It is true, that this description of cotton may be separated from its seed by rollers in the same manner that the black seed or sea-island is; but the process is so tedious and troublesome, that if no more efficient a method of performing the operation had been devised, the cultivation of cotton never could have reached any thing like its present enormous extent, either in this country or the East Indies, into which latter, the introduction of this admirable and simple machine has not only caused a proportionate augmentation in the growth of cotton, but so materially improved its quality, as to be raising up a very formidable competition against ourselves.

Has the memory of its ingenious inventor, this benefactor of his country and of mankind, who has done for agriculture and commerce, what Arkwright did for manufactures, yet received any token of regard, or been awarded the commonest tribute of respect? The following humble attempt to rescue his memory from unmerited oblivion and ingratitude, may perhaps

* Although this Article was in the original treaty, it was not ratified by the Senate.—Ed. So. Agr.

not prove altogether unacceptable, and may possibly serve as an incitement to call into action some abler pen, with better means of collecting the necessary information and materials for the purpose.

The details which follow are wholly derived from memory, unassisted by note or memorandum of any kind; but they will be found substantially correct.—That which took place anterior to May, 1799, when the first of Mr. Whitney's gins was put into operation, was derived from a much esteemed and lamented friend, who was the family physician and intimate friend of Mr. Phineas Miller, and that of subsequent date occurred under the eye, or to the knowledge of the writer of this sketch.

Mr. Phineas Miller married the widow of our much distinguished and highly appreciated revolutionary general, Nathaniel Greene; and having the settlement and adjustment of the very intricate and involved concerns of the estate, originating from personal responsibilities incurred by Gen. Greene, whilst in command of the southern army; a well grounded knowledge of the law was rendered next to indispensable to Mr. Miller, who, by intense study and powerful genius, soon acquired it.

Georgia at that time being comparatively a new state, opened a field to the enterprise of young men coming forward into life. Accordingly, Mr. Eli Whitney, who, if not a relation, was a most particular friend of Mr. Miller, either proposed himself, or was invited to come on to that state, reside with Mr. Miller, use his law library, and receive from him all needful instruction short of the court practice, which might afterwards easily be acquired in the office of an able practising attorney.

Mr. Whitney accordingly came on to the then residence of Mr. Miller, which was at Mulberry Grove, the plantation presented by the state of Georgia to Gen. Greene, in acknowledgement of his revolutionary services, situated on Savannah river, about ten or twelve miles above Savannah.

The dry study of the law did not happen to be at all congenial to the habits or inclination of Mr. Whitney, and his advancement in it was, as a consequence, proportionally limited. His genius seemed to have a decided mechanical turn; as (in the New England custom) he could not rest without whittling sticks, or unless when executing some ingenious little mechanical contrivance for Mrs. Miller. It was customary with Mr. Miller, almost always on his return from absence on business, or his walks through his plantation, to make inquiry of Mr. Whitney, touching his progress in his law studies. One day in going through his plantation, after the pods of the cotton had begun to open or expand, he plucked several of the green seed kind, which he had planted for an experiment, and in separating the cotton from its seed with his fingers, noticed the very strong adhesion and the consequent great difficulty in separating and detaching them. After effecting the object, however, with a small portion, he could not but admire the admirable whiteness of the color and the beautiful fineness and softness of the staple.

It may not be irrelevant here to remark, in way of explanation to those unacquainted with the circumstances, that owing to something in the atmosphere or the climate, the green seed or upland cotton planted in the swamps near the sea-board, or in the neighborhood of the sea-coast, most generally assumes a finer and whiter, although not so strong a staple, as the same kind of seed planted in the interior. And it may be further necessary to add, that many attempts had been made in the interior of Georgia and South Carolina, to gin out the green seed cotton by rollers in the same way that the black seed cotton (which is quite easily separated from its seed) was ginned; but the operation was so tedious and inefficient as very materially to check the cultivation of this description of cotton. Mr. Miller, whose imagination was fertile and his disposition most persevering—was, in his solitary walk home, revolving in his mind the best

expedient to remedy the difficulty in question, but all unavailingly.

Arrived at home, pondering over the subject, with the cotton still in his hands, he was making his accustomed inquiries of Mr. Whitney as to his progress in his law studies, and the answers proving quite unsatisfactory, he somewhat petulantly remarked—"Mr. Whitney, the natural turn of your mind can never lead you to eminence in the profession of the law.—Its bent seems to be decidedly towards mechanics—now, sir, (throwing at the same time on the table, the seed cotton he held in his hands) if you, from the possession of so much mechanical talent, can devise a short, cheap and efficient process for separating that cotton from its seed, you need desire no better fortune than it will make you, nor to render a more effective service to your country." Mr. Whitney, with the innate modesty and diffidence, most generally the companions of true genius, after an attentive observation of a few minutes, "hoped he might be able to accomplish it." Mr. Miller, then, without any hesitation, offered to be at any reasonable expense to test the experiment for the exclusive benefit of Mr. Whitney; but he declined the undertaking, unless that, if it succeeded, Mr. Miller should be one-half interested in any advantage which might accrue from such successful result. These preliminaries arranged, Mr. Whitney provided himself with the requisite tools, and shut himself up in his room, from which it was found difficult to abstract him, even to take his meals. Inquiry would naturally be made of him whenever he did shew himself, of the prospect of his success, which either was met with silence or with an evasive or equivocal reply. The inquiry became the more importunate on the part of Mr. and Mrs. Miller, when he seemed to evince a depression of spirits; and he at last confessed that he had at the very outset overcome every difficulty but one, which, though apparently trifling in itself, had perplexed and worried him excessively. They then insisted on his bringing his unfinished model down stairs, and it was placed on the dining table. It consisted of a wooden cylinder, similar to the barrel of an organ, with bent teeth inserted in straight rows, between which thin slats of iron were placed forming narrow groves through which the teeth on the cylinder could revolve, thereby tearing off the cotton from the seed, which dropped below. This cotton, however, accumulated on these teeth and clogged them so much as to prevent their passage between the slats. This was the difficulty now to be overcome. Whilst in deep consultation as to the remedy, Mrs. Miller, in a laughing manner remarked, "What! allow such a trifle as that worry you? Trust to a woman's wit for the cure, and turn the cylinder," whilst she, at the same time, seized the hearth brush, perfectly unconscious that what she was doing in playfulness to relieve the chagrin of Mr. Whitney, was to result in so completely overcoming the difficulty in question. The application of the brush, however, did not produce the desired purpose; but Mr. Whitney suddenly exclaimed, "Thank you for the hint! I have it now." He carried back his model, and by adding another cylinder, with a reversed motion and increased velocity, with short and stiff hog's bristles, operating upon the hooks or teeth, the cotton was thrown off to a considerable distance, and fell in small downy flakes, rivaling in whiteness and beauty of descent, the purest of snow or gossamer.

Here started into existence this beautiful and simple machine, which like the steam engine of Watt, the ingenuity of man, with all subsequent experience, has not been able materially to improve in any one point. How many millions have not its operations served to support in the ways of agriculture, navigation, manufactures and commerce. What value has it not imparted to lands that without it would have been but of little or no value! What gloomy wildernesses has it not laid prostrate to substitute the abode of civilized man for the haunt of the prowling beast

of prey, or of man so little advanced beyond! How great should not have been the reward of this benefactor of his species? With what pride should not his memory have been hailed by his contemporaries and countrymen.

The nature of the reward he received will be found in the following detail, and the respect which has been shewn to his memory, is best depicted in the necessity of this present feeble attempt to rescue it from next to total oblivion. The principle adopted having so completely answered the desired purpose, Mr. Whitney proceeded to the north to have more perfect models prepared, and to secure the patent right in the names of Miller & Whitney, which was accordingly done. The experiment was there renewed with different cylinders, the one with the bent teeth before described, and the other with annular saws, as Mr. Whitney so termed them. His friends, among the number of whom was Mr. Hillhouse, (United States Senator from Connecticut,) seemed to be of opinion that the cotton ginned by the former, (the bent teeth) had a better appearance than that ginned by the latter. The first large gin set into operation by horse-power was accordingly made with the bent teeth; and if the writer of this sketch is not misinformed, it is still in existence at Mulberry Grove. But Mr. Whitney, himself, from greater mechanical knowledge, or some other unknown cause, deposited in the patent office the model with the annular saws.

The gin-house and horse gearing at Mulberry Grove being completed, and the performance of the gin surpassing the most sanguine expectation, fortune seemed to throw open to view her brightest vista, as the reward of such meritorious ingenuity, and the liberal patronage that called its fruit into existence.

A grand fête was accordingly given at Mulberry Grove, in celebration of the first operation of this ingenious mechanical contrivance. It took place about the middle of May, 1799. Not one of the gentlemen, who attended, was permitted to enter inside of the gin-house; but ladies were indiscriminately admitted, and were each furnished with a flock of the beautiful fleece to distribute, as specimens, to their male attendants outside.

The fame of the gin, and the cotton it produced, spread most rapidly, and numerous applications were made for the purchase of patent rights, which were declined at the time, from the design of the proprietors, to set up their gins in all the sections affording a sufficiency of cotton, and to gin the same out upon a fair and moderate toll; for them a most unfortunate design, as the result proved.

Whatever precaution had been used to veil their secret, either from the treachery of the workmen engaged, or some other means, the principle employed, and the bent teeth used, leaked out. It occurred to an ingenious mechanic at, or in the neighbourhood of Waynesborough, in Georgia, ignorant that Mr. Whitney had ever used the annular saws, or had deposited a model of that description to secure his patent right, and who either believed or pretended to believe, (so little was the law of patents in the Southern States at that time understood,) that if Miller and Whitney used bent teeth on their cylinders, it was no infringement of their rights to use, in their stead, serrated sheet iron. He accordingly made a gin exactly similar to Miller & Whitney's with the foregoing exception, and it was set into successful operation by a store-keeper at Waynesborough, (if rightly recollected,) of the name of Carter, who purchased the cotton in the seed from the neighboring planters. Before Miller & Whitney could bring the infringers of their patent before the Federal Court, several other gins were made and put into operation, five or six of which were located at Augusta. Suits were brought against all infringers, excepting one, who, being connected with the particular friends of the parties, and stating his ignorance of any invasion of their rights, and his willingness, if they substantiate it, to purchase their patent at the highest rate, was exempted.

He was, nevertheless, subpoenaed as a witness against the other infractors. The causes came on before the Federal Court, sitting in Savannah, and there appeared no possible means of the infractors escaping the penalty of the law. In the examination of the witness just above alluded to, he was asked if he himself had not used one of the gins in question, which he of course could not deny. He was next asked how he could, as a man of intelligence, set so bad an example in the violation of the rights of others? He replied, he was unconscious of having done so, as previous to purchasing and using his gin, he had examined the law, that he had simply bought and used it, and not devised, made and sold it. The book, as a matter of course, was called for, and the law was found to read—"devise, make, sell and use," requiring the perpetration of the whole together to constitute the offence. The judge, after an attentive collation and examination of all the copies of the law he could find, however, reluctantly, had no alternative but to non-suit the plaintiff, and to send back the law to be amended at the next session of Congress; by the substitution of the important monosyllable "or," for that of "and." By what slender threads the fortunes and hopes of men are suspended!

This trial could not possibly have taken place earlier than 1800 or 1801; and does it not become a matter of surprise how a clerical or typographical error of this kind should so long have escaped the keen scrutiny and investigation of legal research? Or may it not tend to show how few, or if any, trials had previously taken place under the patent law?

As, by the practice of the Courts in those days, the new trial could not be brought to the first term; considerably over twelve months must have elapsed before the infractors could be brought to a second trial under the amended act. In this interval so many of the gins had got into operation, it became no easy matter to make up the needful juries of trial, under the pretext or exercise of direct or indirect interest with the parties to be brought before the Court; and, of course, the strong influence of public opinion and interest, opposed no trifling impediment in the way of justice. It also very unfortunately happened for Miller & Whitney, that a person about that time emigrated from Ireland to Savannah, who had been in a cotton manufactory, who testified he had seen there in operation a machine very similar to the cotton-gin, which was called a devil or teaser, or some such like name, used to take the moats and dirt out of the cotton; and his assertion received no small degree of corroboration from other persons from Lancashire, in England.

This testimony was taken down in writing from the different parties, and a little relied upon for the defence. At the trial which took place at Louisville, Georgia, in the Federal Circuit Court, the writer of this sketch was present. Mr. Whitney entered the Court with a small package, enveloped in a silk handkerchief, which had the appearance of containing books; this he carefully deposited under the court-table. The testimony above alluded to being read, it had the semblance of being conclusive in its effect.—When it became necessary to rebut it to the Court, Mr. Whitney claimed the privilege, which was granted, of doing it, as being best calculated to give the necessary mechanical explanations. He took his package from under the table, and opening the handkerchief, presented to view an exquisitely beautiful model of his gin about fourteen or fifteen inches in length, with several handfuls of seed-cotton.—He handed both up to the judge, and spreading out the silk handkerchief to prevent the escape of the ginned cotton, desired the judge to turn the crank, which he seemed to do with great delight, and in a very few seconds the cotton separated from the seed, was gathered up and pressed together in the hand.—Mr. Whitney then inquired of the judge and jury if it was not in that state the cotton was exported for the purpose of manufacture either in England or Ire-

land? which being assented to; he handed the ginned cotton to the judge, requesting him to strive and force the cotton again between the slats, which it was found impossible to do without breaking the model all to pieces. Thus by the most conclusive ocular demonstration, he proved to the satisfaction of every one present, that the machine used in Europe could have no sort of affinity, let alone identity, with his invention. But all availed him nought. After vast expenditure of money, waste of time, and harassing attention, in endeavoring to obtain through the medium of the law redress and remuneration, he hopelessly abandoned the pursuit; nor to this day has he or his representatives, to the knowledge of the writer of this sketch, ever received compensation or reward from any other state than that of South Carolina, which paid him \$50,000 for the use of his improvement within its limits. Notwithstanding, the states of Georgia, Louisiana, Tennessee, Mississippi, Alabama, North Carolina, and even Virginia, have reaped so rich a harvest from, and profited so enormously by his ingenuity and invention.

The first cotton prepared by Miller & Whitney's gin, consisted of from fifteen to twenty bales. So little was known of its comparative value with the sea-island cotton, that no price could be affixed to it; but it was generally thought, at the time, to be worth much more than the sea-island from its superior whiteness, cleanness, and fineness of staple. Meins & Mackay, of Savannah, at the time the principal European importing merchants, agreed to make an advance on the cotton, and consign it to their correspondents in London, Messrs. Simpson & Davidson. This took place in the winter of 1799 or 1800. Until the report was received from the manufacturers in England, hope and expectation revelled in the anticipation of the great and enhanced value of this description of cotton! What then must have been the disappointment and mortification, when the report was received, stating that every attempt to spin it by the machinery then in use had proved abortive, and no other reason could be assigned for it, than that the staple of the cotton appeared to be doubled or bowed, like hatter's fur. From that circumstance it derived the name, which it still retains, of bowed cotton.

The idea of further using the gin was for a while abandoned, and it was considered a complete failure. However, after the lapse of some months, letters were received at Savannah, stating that a spinner had discovered a new mode for overcoming the former difficulties, and that cotton ginned in this manner could be made generally useful and would become a favourite cotton; but never could compete with the sea-island cotton in point of price, or usefulness for the finer fabrics or manufactures. Experience has tested the correctness of the remark; and new spinning mills adapted to this description of cotton, have rapidly extended its consumption and consequent growth.

Mr. Whitney's mechanical ingenuity was afterwards employed in the service of the United States in the armories at Harper's Ferry, in Virginia, and at New-Haven, (Conn.) where, by his contrivance, the various parts of gun-locks were made so exactly to correspond, that, in the event of any one part of the lock getting broke or failing, the substitute to replace it, might be promiscuously taken from the bag or box, in which such corresponding part was deposited, and thus an immensity of expense and time, in the repairs was spared to the public. His ingenuity and talent have only been underrated from the simplicity which produced such admirable results; but this is not to be wondered at, when even the perfected works of his great Creator, which meet us at every turn, experience a similar treatment from the self-same cause. S.

Why should raspberries be eaten from the bush? Because their flavour is the most fleeting of all fruit. Even a few hours will diminish it, and on the bush the flavor does not continue above two or three days; when gathered, the flavor is almost entirely gone,

(From the Genesee Farmer.)

ORNITHOLOGY.

Greatfield, 8 mo. 6, 1832.

Many birds that build on the ground, when disturbed, run along fluttering to lead the passenger from its nest or its brood; but I have no recollection of observing birds that build on bushes or trees, to practice this deception till I saw it this season in the blue-eyed yellow warbler.—The young birds were seated on a tree in the fruit garden. To lead me away from them, the parent tried all the tricks of the woodcock; and though I had long been partial to this bird, on account of his amiable disposition and his useful industry, these efforts in defence of his young, rendered him still more of a favourite.

The following passage is copied from Wilson's Ornithology; "I once started a hen pheasant, with a single young one, seemingly only a few days old; there might have been more, but observed only this one. The mother fluttered before me a moment, but suddenly darting towards the young one, seized it in her bill and flew off along the surface through the woods, with great steadiness and rapidity, till she was beyond my sight, leaving me in great surprise at the incident. I made a very close and active search around the spot for the rest, but without success. Here was a striking instance of something more than what is termed blind instinct, in this remarkable deviation from her usual manoeuvres, when she had a numerous brood. It would have been impossible for me to injure this affectionate mother, who had exhibited such an example of presence of mind, reason, and sound judgment, as must have convinced the most bigoted advocates of mere instinct. To carry off a whole brood in this manner, at once, would have been impossible; and to attempt to save one at the expense of the rest, would be unnatural.—She therefore usually takes the only possible mode of saving them in that case, by deceiving the person in pursuit of herself, by such a natural imitation of lameness as to impose on most people. But here, in the case of a single solitary young one, she instantly altered her plan, and adopted the most simple and effectual means for its preservation."

D. T.

(From the Genesee Farmer.)

LEGIBLE WRITING.

Some persons write legibly, exhibiting their own names; yet names are the parts of a writing which ought to be most plainly written. Names, like the arithmetical digits, are not to be determined by the context, in the manner that other obscure words may be discovered.

Lavater said a man could be known by his hand writing; and an inherent fondness for *airs*, is often exhibited in the *flourishes* of a signature, which, though hard to counterfeit, is harder to read. An affection of obscurity is one of the least tolerable kinds.

EPITHALAMIUM. By BRAINARD.

I saw two clouds at morning,
Ting'd with the rising sun;
And in the dawn they floated on,
And mingled into one;
I thought that morning cloud was blest,
It moved so sweetly to the west.
I saw two summer currents,
Flow smoothly to their meeting,
And join their course with silent force,
In peace each other greeting;
Calm was their course through banks of green,
While dimpling eddies play'd between.
Such be your gentle motion,
Till life's last pulse shall beat;
Like summer's beam, and summer's stream,
Float on, in joy to meet
A calmer sea, where storms shall cease—
A purer sky, where all is peace.

NEW CHINESE MULBERRY TREES, *Morus Multicaulis.*

This very superior variety of the Mulberry for feeding Silkworms, may be obtained at the Office of the American Farmer. Price per package of 20 trees, with directions for cultivation, \$2.00. They may also be had in smaller numbers at \$1 each.

They will be ready for delivery on the 1st November next.

DEVON CATTLE, &c. FOR SALE.

For Public Sale, at the Three Ton Tavern, in Pratt Street, on Saturday the 3d day of November, at twelve o'clock, a choice collection of Devon Cattle, also Horses, Asses, and Rams of the Bakewell and Southdown breeds, viz.

Fifteen Cows of the full blooded Devon, from Mr. Coke's breed, of Holkham, in Great Britain.

Four Bulls of the same breed.

Twenty-five Heifers and Calves of the same breed.

The stud horse Hickory, five years old, of the blood of the imported horse Exile, from a mare got by the horse Hickory. This breed of horses unites the qualities of action, strength, and docility more than any other known breed.

Sundry Horses and Colts—and Rams.

A Jack of the breed of the Knight of Malta, and of the Royal Gift, five years old, and a good foal getter—his sire cost \$500.

Two Jennies of the same blood,—five years and three years old.

The terms of sale are, cash for any sum under \$100; and six months' credit for sums above \$100, with satisfactory security.

Baltimore, Sep. 28, 1832.

SALE OF DEVON CATTLE.

The Subscriber will offer at Public Auction on Saturday the 13th day of October next, on his Farm adjoining Westminster Frederick, Md. his entire stock of DEVON CATTLE; consisting of "Teecumseh" a full grown Bull 4 years old; Commodore, a Bull calf 4 months old; 2 Heifers, Sally 3 years old, and Julia Ann 14 months old; and 8 full Devon Cows of different ages; also 2 Cows Devon and Alderney, and 2 Devon and best country Crosses. As the subscriber intends to discontinue the breeding of Cattle, the public may depend upon the sale being positive.

TERMS—Six months' credit will be given, the purchaser giving his note with approved security. Sale to commence at 10 o'clock.

Sep. 28.

DAVID WINCHESTER.

THRESHING MACHINES.

The Subscriber would inform the public that he has obtained the patent right for FOX & BOILAND'S PATENT THRESHING MACHINE, for all the State of Maryland, with the exception of Washington, Frederick, and Montgomery counties, and also for the lower counties of the State of Virginia that lie contiguous to Maryland. These machines possess several and very important advantages over all other machines, which have been introduced for threshing. The concave bed to this machine is placed upon springs, which enables it to recede from the cylinder when over fed or, any hard substance gets in, this, with the peculiar form of the spikes and the manner of setting them, renders it impossible to break or injure the machine, and at the same time enables it to perform the work with about one-half the power required by other threshers. It can be readily set to shell corn with great facility, and also to break the corn cobs sufficiently fine to feed stock; it is likewise very simple, easily managed, and the price reasonable, say from sixty to eighty dollars, according to size, or including the horse power complete, from one hundred and sixty to two hundred dollars. To those counties referred to in Virginia, he offers the patent right for sale to include a machine with each county right. All communications by mail, post paid, will meet prompt attention.

J. S. EASTMAN,

Pratt, near Hanover street, Baltimore.

ORCHARD GRASS SEED.

100 bushels Orchard Grass Seed, just received and for sale by
SINCLAIR & MOORE.
Sept. 7.

PLANTATION FOR SALE.

The Subscriber offers for sale the plantation whereon he lately resided in Sassafras Neck, Cecil county, Maryland, one mile below Rose Hill, the seat of General Forman, and about fifteen miles below the mouth of the Chesapeake and Delaware Canal. It contains eight hundred and eight acres, of which about five hundred and fifty acres are arable, and for the most part in a high state of cultivation. The wood and timber abundant and fine. The quality of the soil is first rate, and little or none of the tract is waste. Its form is an oblong square, and is bounded on the South by Sassafras river, and on the north by Ponds creek, and may be said to be enclosed on two sides by water. On the tract is Ordinary Point, one of the most celebrated points for duck shooting in Maryland, especially for canvas backs. The situation is high, and commands a fine view of Turkey Point and the head waters of the Chesapeake bay, and is about mid-way between the Philadelphia, Brandywine and Baltimore markets, and has convenient landings for shipping the crops to either market. For the growth of Indian corn, wheat, timothy and clover, this farm is not surpassed on the Eastern Shore of Maryland, and as such offers the highest inducements to the farmer, the grazier, and the sportsman.

The improvements are a comfortable dwelling house, and other suitable buildings, a young apple and peach orchard, in full bearing, and a choice collection of other fruits. It will be sold low and the terms of payment made easy. To the capitalist it is an object for an investment, as the rents received will average per annum seven per cent. on the sum that would command it.

For further particulars apply to Levin Gale, Esq. Elkton; James Rogers, Esq. New Castle, or to William Cooke, Esq. Baltimore. Captain Craddock, residing on the place, will show it to persons desiring to see it.

O. HORSEY,

Sept. 7. St. Petersburg, Frederick Co. Maryland.

BLOODED HORSES, BROOD MARES, AND COLTS FOR SALE.

At the residence of the late Alexander F. Rose, Esq. in Stafford County, Vir.

No. 1. ch. m. FLORA, fourteen years old, out of Miss Dance, by Ball's Florizel.

As the character of Florizel is so generally known, and ranks him among the most distinguished horses of his day, it is deemed only necessary to say, he was the sire.

No. 2. b. m. PET, ten years old, out of Miss Dance, by St. Tammany.

St. Tammany, the sire of Pet, was full brother to Florizel, and bred by Maj. John Roberts, of Culpepper, who purchased him a sucking colt, and, when only three days old, gave for him 100 guineas. When a colt he was put in training by Maj. Roberts, but an accident occurring, was withdrawn from the turf. In point of performance and appearance, his judicious owner esteemed him at that age as promising to be fully equal if not superior to his brother Florizel.

Miss Dance, the dam of these two mares, was by Robert, and bred by Col. Dance, of Chesterfield, and is well known to have been one of the finest mares in Virginia. When twenty-three years old, and owned by Maj. Roberts, \$500 was offered for her and refused. The dam of Miss Dance was by Independence, grand dam by the imported horse Centinel, or Flinnap, g. grand dam by the imported horse old Janus. Roebuck was by the imported horse Sweeper, son of Mr. Beaver's Great Driver; his dam by the imported horse Bagazet, son of the Earl of March's old Bagazet, son of the Godolphin Arabian.

These two mares are now in foal by Carolinian, a distinguished son of Sir Archy; and out of them are the following colts:

1. a ch. f. three years old, out of Flora, by Lafayette.
2. a ch. f. two years old, out of Flora, by Contention.
3. a b. f. two years old, out of Pet, by Contention.
4. an iron grey, one year old, out of Pet, by W. R. Johnson's Medley.

No. 3. ch. u. Virago, eight years old, by Wildair, dam by the imported horse Hamilton, grand dam by Spread Eagle. Wildair was by Ajax, and bred by Col. R. Walker, of Amherst, his dam by Knowsley, grand dam by Highflyer, g. grand dam by old Wildair, g. g. grand dam by Asaal, g. g. g. grand dam by Aristote,

g. g. g. g. grand dam the celebrated running mare Hotford.

Out of Virago, is a fine two year old filly, by Contention, and she has now by her side a beautiful bay filly, by Governor Barbours imported horse Young Truffle, and is now in foal by Carolinian.

No. 4. ch. m. Nettle, seven years old, full sister to Virago, has now by her side a fine colt, by Young Truffle, and is now in foal by Carolinian.

No. 5. ch. m. Cora, six years old, full sister to Virago and Nettle, and in foal by Carolinian.

Out of Cora, is a beautiful ch. f. one year old, by Contention.

Application to be made to the Executors of Alexander F. Rose, deceased, Fredericksburg, Virginia.

Aug. 10. 2ms

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—There are very few alterations in the prices of produce. Howard street Flour remains at \$5.75 from wagons. The lowness of the mill streams above keeps flour at its present rates, as there is little business doing in the article.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 3.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 8.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 28.00.—Virginia, 4.00 a —. Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 681 hhds. Md.; 125 hhds. Ohio; 7 hhds. Ken. and 2 Penn.—Total 815 hhds.

FLOUR—best white wheat family, \$6.75 a 7.25; super Howard-street, 6.00 a —; city mills, 5.50 a 5.62; city mills extra 5.87 a 6.00.—Corn MEAL bbl. 3.50; GRAY, best red wheat, 1.05 a 1.07; white do. 1.10 a 1.15; CORN, white, 72 a 73, yellow 72 a 73; RYE, 85 a 90.—OATS, 38 a 40.—BRANS, 75 a 80; PEAS, 65 a 70.—CLOVER-SEED — a —.—TIMOTHY, — a —.—ORCHARD GRASS 2.00 a 2.25.—Tall Meadow Oat Grass — a —.—Herd's, 75 a 97.—Lucerne — a 374 lb.—BARLEY, FLAX-SEED 1.50 a 1.62.—COTTON, Va. 8 a 10; Lou 9 a 13.—Alab. 8 a 11.—Tenn. 8 a —. N. Car. 8 a 10.—Upland 8 a 11.—WISKEY, hhds. 1st p. 30 a —; in bbls. 32 a 33.—WOOL, Washed, Prime or Saxony Fleece 45 a 50; American Full Blooded, 38 a 42; three quarters do. 33 a 38; half do. 30 a 33; quarter do. 28 a 30; common 25 a 28. Unwashed, Prime or Saxony Fleece, 25 a 30; American Full Blood, 22 a 25; three quarters do. 20 a 22; half do. 18 a 20; quarter do 16 a 18; common, 16 a 18 HEMP, Russia, ton, \$210 a 215; Country, dew-rotted, — a 7c. lb. water-rotted, 7a 8c.—Feathers, 37 a —; Plaster Paris, per ton, 4.12 a 4.25, ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for forges, per ton 33.00 a 30.00; bbl. Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.00 a 5.50.—Oak wood, 3.37 a 3.75; Hickory, 4.50 a 5.00; Pine, 2.25 a 2.75.

CONTENTS OF THIS NUMBER.

Editorial; Dallias; Letter from Hibbert & Buist on the Male Maclura, with Remarks by the Editor—Golden Rule—Foreign Markets—James T. Jones on Making and Applying Manures—Chess—Thomas Parker on the Culture of Wheat—Jerusalem Artichoke; Indian Corn, extract from an old work, Gerard's Herbal—An Address delivered before the Horticultural Society of Charleston, at the Anniversary Meeting, July 11, 1832, by Dr. S. Dickson—Silkworms, two Crops Reared in one Season—On the Culture of Cow Peas as a Manure, Proper time for Ploughing them in, by William Geo. Reed, Esq.—New Importation of Durham Shorthorn Cattle; their Pedigrees—Sketch of the Life of Eli Whitney, with some Remarks on the Invention of the Saw-gun—Orthology—Legible Writing—Epithalamium—Advertisements—Prices Current of Country Produce in the Baltimore Market.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, basement of Barrum's City Hotel,) by L. IRVINE HITCHCOCK.

Printed by John D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, OCTOBER 5, 1832.

DEVON CATTLE.—It will be perceived by advertisements in the Farmer, that two large public sales of Devon cattle are soon to take place. These sales, we are assured, are not caused by any depreciation of the value of this breed in the minds of the present owners, but are the consequence of a determination on their part to relinquish the breeding of stock. We believe that both gentlemen consider the true North Devon cattle of which their stocks consist, inferior to no other breed. One of the gentlemen we know does, and we believe the other also does.

We take occasion here to correct an erroneous impression caused by a remark we made sometime since, in speaking of a very fine calf we had. We said the calf, then four months old, was as heavy as a Devon heifer two years old then by his side. From this remark it has been supposed, that we intended to convey the idea that the Devon breed was very small, and inferior in other respects, which is very erroneous. We merely intended to convey an idea of the enormous size of the calf, which was at least double that of any other we ever saw, whether Devon, Durham Shorthorn, or any other breed. There are several of the most respectable gentlemen of Baltimore, who, after possessing the Devons for many years, consider them superior to Shorthorns; and there are many others who have possessed the Shorthorns for a like length of time that consider them superior to all other breeds. The only conclusion we can draw from this diversity of opinion among those who have the best opportunity of forming correct opinions, is, that both breeds must possess qualities that make them a valuable acquisition to the country; and that in making choice of either there is not much danger of any one going very far wrong.

SALT FOR CATTLE.—We are fully impressed with the idea, that a free and constant feeding of salt to cattle, is essential to their good condition, especially at a distance from salt water. The cattle on our stock farm have nothing but ordinary pasture, but we take care to keep salt always within their reach for which purpose we invariably put some in convenient places in the barn yard, every alternate day, and this whether the previous supply has been exhausted or not, (that the rule may not be broken by forgetfulness.) It was feared at first they would eat too much, but experience proves that they will only take the proper quantity, however much may be laid before them. The effect is visible to every eye, in the high condition of all the animals, and particularly in the quantity and quality of the milk and butter of the milch cows. The salt gives tone to the digestive organs, and consequently ensures a good appetite, and a uniformly healthful state of the bowels. The result is a high and healthful condition of the young stock; and an increased quantity of rich milk from the milkers. The good appetite induced by it has another important advantage: it induces the cattle to eat much of the rank grass and herbage of the pasture, which would be passed over by more delicate appetites. We often see cattle in pastures far superior to ours, in very low condition; but in every case the answer to our enquiry, "do you give salt plentifully and regularly," is "Yes, I give them salt once in a while," or words to that effect. Now, this "once-in-a-while" practice won't do. They must have salt, regularly and plentifully.

Water must also be within reach of all animals at all times, and that of the purest quality. Some farmers, having no running water in their pastures, give their cattle water twice or thrice a day, by driving them to a spring, or pump, or stream. They may want water at these times, and may not, just as it happens; but they certainly do not get it at all times

when they do want it. Of this we can judge by ourselves. Who could possibly do with water only at certain times and these times always the same? With the human species this would be insupportable. It is the same with all animals, and the whole benefit of water depends upon its being taken when the stomach calls for it. Water, of all substances that contribute to the support and nurture of animal life and health, is least capable of being regulated in its administration by times and seasons. Animals that have free access to salt require water oftener than those that have no salt; but those that are salted irregularly require constant access to water more than any others, as their thirst is fitful in proportion to the irregularity of their salting.

Let those who have been careless in this matter, try the experiment of giving salt regularly and plentifully every other day, with constant access to pure water, and the improved condition of their stock in one month, will induce them to continue the practice thereafter. They will never again see their cattle licking one another, and filling their stomachs with "witch balls."

AMERICAN WINE.—We are sure that all our readers will read with interest the following letter from Mr. Herbeimont, on the subject of his wine making: We would here take occasion to remark, that the quality of the wine made by Mr. Herbeimont is peculiarly adapted to the use of invalids. A few months since a respectable physician called on us for the purpose of obtaining some for a young lady in very delicate health, who could retain no other in the stomach. Several other kinds had been tried, and neither expense nor trouble spared to obtain the best wines, but none could be found that she could take, till by some means a bottle of Mr. Herbeimont's was obtained, which was not only retained but highly relished, and had the desired effect. We are assured that both the Doctor and patient consider her entire recovery to be attributable to this wine. This is an important characteristic of Mr. H's wine, and enhances the value of it greatly. The wine that Mr. H. calls the *white* wine, is really the most delicate and delicious flavored of any we ever tasted. We tested its quality pretty extensively, having expended a considerable sample of it among *epicures* in the article, all of whom, without an exception, pronounced it *particularly* fine.—The white wine is made from the same grape as the Palmyra, or Madeira colored, but by a different process, by which the coloring matter is excluded with a great part of the astringency.

Columbia, S. C., }
Sept 2, 1832. }

GEO. FITZGUGH, Jr. Esq.

My Dear Sir,—On the well founded supposition that you take a great interest in the good cause in which I have labored hard and long, I thought that, by waiting a few days, I could give you the result of my crop this year.

I made less wine from my garden this year than usual by near one hundred gallons, and this was caused, I presume, by the very wet season of the preceding summer, which prevented much of the young wood from acquiring a due degree of maturity to resist the early frost and most severe winter that followed. This cause, and also that of the vines having borne an exceeding large quantity of grapes, induced me, or even compelled me, to prune very severely, so as not to suffer the vines to produce so much fruit this year. The consequence was, as I expected and designed, that the crop was much less—but it was very prime in quality; for this season has been favorable except towards the last, when it rained almost incessantly, which injured the grapes in my garden, though not at all those at Palmyra. Another great, the greatest, cause of injury was the birds and the June-bugs, and bees, and wasps, &c. Of the June-bugs we must have killed nearly half a bushel; for I carry on against them a war of extermination. Fortunately I have not this pest at Palmyra, the soil of

our sand hills being too poor, I suppose, to raise them. This being the first year I have any thing like a crop at my farm, I made my wine there by itself, without bringing the grapes, as formerly, to Columbia, to be mixed with those of my garden. Besides this, I had another reason which was, that I was obliged to gather at home, notwithstanding the rain, or else I might have lost one half by the pests named above; whereas the grapes at my farm were not suffering sufficiently to induce me to run the had chance of a vintage in rainy weather—birds only committing depredations there. The making of the white wine gives about double trouble, as the grapes must be pressed as soon as gathered, and I was three days gathering, notwithstanding my having had for two days nearly thirty of the poor people of the neighborhood, besides all of my own people, house servants and all. Finally, I finished pressing to-day the Palmyra, and the amount of the whole crop is near nine hundred gallons, of which the white amounts to two-thirds. I have every reason to believe that the wine will prove of a very superior quality, particularly that made at Palmyra, which I shall not mix with the rest. Of the white alone made there, there is very near five hundred gallons. What surprised me was, that the wine called Palmyra, is as yet of a rich red color, which has never yet been the case before, though I have had it generally slightly tinged, and then the red color was deposited in the lees; but I do not think that it can deposit this year all its color and leave it merely, as usual, of a deep Madeira color. The cause of this must be looked for in the long drought before the rains set in, and although it rained pretty generally every day for a month, (with little exception,) we have not had a single one of these tearing-every-thing-showers, usual in this climate at this season. Add to this, that I was most highly favored with dry weather all this week, except a pretty heavy shower, which had the goodness to come in the night. The grapes were then most fully and regularly ripe, and I hope, therefore, that if Bacchus himself could condescend to pay us a visit and drink some of my wine, he would readily acknowledge that he never had drank better in his lifetime, and not often as good!

You must allow, my dear sir, a little bragging, and remember the fable of the owl and the eagle respecting their young.

I am, very respectfully, and with great friendship,
Yours, &c. N. HERBEIMONT.

The editor of the Baltimore American Farmer copied our account of a grape vine in Philadelphia, which has been made to bear its fruit over the house, and adds a request for us to let him know the name of the grape that has been thus promoted. It is the POWELL or BLAND grape, and we shall have much pleasure in forwarding to Mr. Smith of the Farmer, a bottle of wine, made from the grapes gathered from the vine, if he will point out any way by which it may be safely conveyed to him. He will find it sound and palatable, a very cordial in its taste and operation, "ascending me" only slightly into the brain, but "cheering the heart of man." We await his orders.—*United States Gazette.*

[Many thanks, friend Chandler. We shall endeavor to contrive a way for the conveyance of this bottle of heart's ease.—*Ed. Am. Farmer.*]

AUTUMN STRAWBERRIES.—In addition to the facts heretofore stated in relation to strawberries borne this fall, we are furnished with several others, the most prominent of which is, that, for several days past, say, September 29th to October 3d, fine large garden strawberries have been sold in our markets at twenty-five cents a quart. Richard Harwood, Esq. of Annapolis, has also gathered some very fine ones.

¶ We are compelled to omit our Prices Current this week. There is, however, no material alterations from those of last week.

AGRICULTURE.

[The following is the successful dissertation, for which its author, the Rev. Morrel Allen, of Pembroke, Mass. was awarded a premium by the Plymouth County Agricultural Society, at their late anniversary at Bridgewater.]

(From the New England Farmer.)

DISSERTATION ON THE MIXTURE OF SOILS.

The author of nature constructed the earth to produce, spontaneously, a vast variety of plants and trees. Uninhabited regions, with a few exceptions, are found covered with a vigorous growth of some sort of vegetable substances.

When the hand of cultivation is first applied, and the natural growth subdued to make room for such plants as are esteemed more useful, the soil is always found in a state of great richness to produce cultivated plants. It is in a course of imprudent cultivation, soils are ever rendered unproductive; by what is called severe cropping in taking away the produce, and not returning a just compensation. The art of successful agriculture chiefly consists in devising and complying the most effectual means of restoring to soils, those qualities which are taken from them in the removal of crops. The perfection of this art is not to be attained without very deep research in some of the most intricate branches of philosophy.

It is necessary to analyze both plants and soil, to discover, with minute accuracy, what qualities are best adapted to the vigorous growth of certain plants; but the art may be acquired in sufficient measure, for the most useful purposes of life, by observation and a course of experiments within the reach of every practical man.

Diligent attention to the designs and operation of nature, in the vegetable world, will qualify us to make, in many cases, certain returns to the soil of properties which we shall perceive has been taken from it, in a course of cropping. The vegetable substances which abound in newly cleared lands, in different degrees of decomposition, and cause the soil at first to yield crops in great abundance, are in a few years exhausted; after which, some soils, especially those that are warm, loose and naturally favorable to grain, become extremely barren. Here it seems scarcely possible for any man to mistake the cause, or err in his judgment of the most efficacious application to restore energy to the soil. It wants nothing but the stimulus of decayed vegetables. This stimulus can be applied in various ways. It is applied with the greatest immediate influence, in the form of excrementitious manures, but these are not attainable in the ordinary situations of farmers, to an extent sufficient for all the purposes of an improving cultivation. It is also applied in mixing plants, in the most vigorous state of their growth, with the soil, and it is applied in mixing one kind of soil with another.—The mixture of soils, even when there is very little apparent difference in the qualities, is always attended with some good effects.

Particles in a soil, which had long been in contact, and, in consequence of long connexion, lost much of the energy of their action on plants, are separated in mixing soils, placed in new connexions and act with renewed vigor. But the most permanent and best effects are always to be expected from the mixture of soils of different qualities. When the object is to produce as much immediate influence as possible, merely to assist one short rotation of crops, to have the application we make, act chiefly as manure, then we may take our materials from any situation, where we know vegetable substances have fallen and decayed.

We may go into forests, and, at certain stages of the growth of wood, without any perceptible injury, skim the surface of the lot. This soil of the woods, carried in sufficiently large quantities on to old fields, will

restore them to original productiveness. And this will sometimes prove an inexhaustible resource for renewing old fields; for as often as the old fields decline, the soil in the wood-lot will be again renewed and fit to remove. For the same purposes, the earth should be carried from the sides of walls and fences, where the leaves have lodged from the forests. It should be also carried from hollows and temporary ponds, which, in certain seasons of the year, become dry and afford immense quantities of vegetable matters, in different stages of decomposition, and suitable to apply to any kind of soil.

Where streams of water occasionally overflow the banks, an abundance of vegetable and earthy matter is lodged on the meadows, which in many cases, especially where there is not much extent of meadow to receive the substances conveyed by the stream, it is prudent to remove on to higher land. It will there act as manure and at the same time gradually alter the texture of the soil, rendering it more retentive of dew and rain, and easily penetrated by the fibrous roots of plants. Of the value of those substances which are carried in streams of water, to enrich soils, we have most convincing proof in the unexplained productiveness of interval lands. It is not exclusively the vegetable substances carried on to these lands, that makes them so astonishingly productive; there is a portion of every kind of soil existing in the surrounding country, annually carried on with the vegetable substances. Intervals are composed of every sort of earth the water can reach and remove. This circumstance may properly encourage the mixture of many kinds of earth, even when there is no particular evidence that each kind is especially adapted to remedy any deficiency in the soils, which we would improve. There is less hazard in administering medicines in great profusion to cure the diseases in the soil, than in the human body. What is always disgraceful in the physician, viz. to boast the number of his applications and the judgment with which they have been made, and it is impossible for them to do any harm, if they do no good, may in the farmer, often be a course worthy of praise. In stepping out of the beaten path of habitual practice, and calling attention to experiments, which to some may look very simple and to others very absurd, we may become instrumental in the discovery of highly important truths.

Accidental occurrences often produce results, which show us that much useful knowledge might be obtained in a course of new experiments. A load of coarse sand, removed merely for the purpose of clearing away an incumbrance and placed in some hollow on the farm, will often show how much that kind of soil can be improved by the application of materials which seem to be wholly inactive and destitute of the food of plants. Many other applications of accidental origin, may lead attentive observers into new discoveries in the true philosophy, in relation to the mixtures of soils.

But we should not think the knowledge that has been acquired through accidental occurrences, or the speculations of theorists, which we have perused, can ever justify our neglect of other means of increasing and applying knowledge. New trials and experiments are necessary, to carry forward every important branch of agricultural knowledge with the most speedy and certain success. Theory may satisfy the specialist, but practical men want ocular evidence; they are not easily persuaded to desert an old for a new path, till the obstacles are manifestly well cleared away. By attention to the constituent parts of soils through which streams of water pass, and the kinds of plants which grow most luxuriantly on the banks of them, we can discover the causes of the extraordinary richness of intervals and learn to imitate the operations of nature. In the removal of alluvial, to mix with other soils, the most important thing to be observed is, always to place it where the soil is somewhat different in texture from the soils through which the stream of water had passed.

This is a rule easy to understand and apply, and the observance of it will insure success to this sort of labor. The maxim of Kligogg, a famous philosophical farmer of Switzerland, will prove true in every region and climate: that "every species of earth may be instrumental to the improvement of another of opposite qualities."

When alluvion is placed on a soil different in quality from that through which the stream passes, as far as composed of earth, it forms a proper and useful addition to the soil, and as much of it as consists of vegetable matters acts with as much energy in that situation, as it could in any other. The same rule is important to be observed in the application of materials taken from hollows and bottoms of temporary ponds. We should consider what sort of earth has been washed into them, and endeavor to incorporate it with that of different texture. In this course, permanent improvements are constantly made in the soil, while every possible advantage is derived from the vegetable matters applied and acting as manures.

When soils are mixed, with a view both to permanent improvement and immediate influence on crops, it is also important to attend to the natural growth in the vicinity where our materials are collected, and apply them where our purpose is to cultivate plants, bearing some affinity to those which nature had planted in the soil removed. "If we examine," says the Farmer's Magazine, "tracts of land which have been cultivated, we find nature has adapted different kinds of plants, to most of the distinguished varieties of soils; and although some belonging to one, may from some cause or other, be found on lands of a different quality, they seldom thrive or perfect their seed so as to become general."

The great care of the farmer ought, therefore, to be, by proper mixtures to reduce his lands to that state and temperament in which the extremes of hot and cold, wet and dry, are best corrected by each other, to give them every possible advantage flowing from the benign influences of the sun and air; to adopt such kinds of plants as they afford, in this state, the greatest nourishment to, and to renew their fertility by a judicious allowance of the most proper manures. Where these things are done, there are few spots so unfriendly to cultivation, as not to repay his expenses and labor with a plentiful increase. But without these, the best tracts of land will in time become a barren waste, or produce little but weeds.

Alluvion, as it is composed of earthy and vegetable matters, easy of access, and found in plenty on almost every farm, may justly be considered as our first and best resource in the admixture and improvement of soils. But without any great difficulty we can obtain access to many other materials, which will produce very permanent, if not so immediate and perceivable good effects. We need not confine our researches to the surface of the earth; a vegetable principle is found in every stratum of it to the lowest depth penetrated by man. In digging far into the earth for materials to mix with the soil, we find these which, if properly applied, will produce very lasting good effects. We thus obtain a virgin mold, soon to become the parent of a vigorous and numerous progeny. Earth taken at some distance below the surface, can be incorporated with any sort of soil with some beneficial results—because the influence of the air upon the new earth will occasion so active an operation of the vegetative principle, that any kind of soil will be stimulated and assisted in that operation. It is, however, advisable, even in the application of pit earth, to regard the Swiss maxim and place it on a soil of different quality. The different qualities of the pit earth and the soil where we would place it, can be ascertained with accuracy enough by inspection. It is necessary to penetrate considerably below the surface of the earth, to find several substances, which become active and powerful, when mixed with suitable soils.

Beds of the most valuable peat often lie several feet below the surface. When this substance is re-

moved from its bed, and exposed to the action of the atmosphere, it readily yields to a fermenting influence, the first requisite to its becoming a useful constituent part of soil. Peat should always be applied to soils, which tend to an excess in fermentation. At the same time that it opposes the progress of that disease in a soil, it is gradually reduced to a state of decomposition, in which it contains much food of plants.—Marl, which is a very rich ingredient in a judicious application of it to soils, is also found at various distances from the surface in the sub-soil. Marl is a composition of several substances, and the nature of those substances must be carefully examined to discover on what sort of soil, a particular bed of it can be applied with the greatest effect. There is what agricultural writers call shell marl. This is a suitable application for almost any soil. It is composed chiefly of animal substances and lime, and therefore will act in any situation as a powerful stimulant.—Mr. Brown, in his treatise on agriculture, says, "It would seem that shell marl, from the qualities it possesses, promotes vegetation in all the different ways. It increases the food of plants; it communicates to the soil a power of attracting this food from the air; it enlarges the pasture of plants; and it prepares the vegetable food for entering their roots."

Shell marl is easily distinguished by the shells which always appear in it; but the similarity between earth marl and many other fossil substances, renders it difficult to distinguish them. The common test, however, will be sufficiently certain for all the purposes of the farmer. Earth, that effervesces in acids, partakes of the character of marl, and the degree of effervescence will pretty accurately show to what extent it partakes of that character. But we must not be governed exclusively by the strength and richness of marl, in our selection of situations to apply it; we should also attend to its natural tenacity and the character of the earth about the beds which contain it. If it be silicious earth or coarse gravel, then the marl belongs to cold and clayey soils. If it be a compact and clayey substance, then the marl should be placed on loose and warm soils. When marl is properly applied, almost any desired degree of richness can be produced by it. No other manure will be necessary in the first rotation of crops. But the same cautions are important in the use of this substance, which are so necessary to be observed in the application of lime. Both marl and lime stimulate the soil to unusual exertion, and if nothing else for a long succession of years be applied, there will follow debility, and the land will be reduced to barrenness. This effect is to be feared only in the imprudent and exclusive use of these substances; under prudent management they are powerful and highly important agents. In a correct rotation of cropping and with occasional supplies of other manures, neither marl nor lime will ever prove injurious.

By digging deep into the earth, all the mineral substances are found which may impart a new texture to soils, or by acting on the animal and vegetable matter contained in them, in the decomposition and solution of it, will assist in furnishing food for plants. The fossils, which, mixed with soils, will increase the richness and fertility of them, are very numerous, and no more than imperfectly understood. Every extended advance of the former towards the interior regions of the earth, tends to increase our knowledge of the mineral kingdom; as it is likely to furnish the chemist with some new subject of analysis. Excavations may sometimes be profitably made in the earth, for the sole purpose of mixing the materials obtained, with the different soils on the farm. Experiments of this sort, if they should not result in any addition to the stock of general knowledge, would certainly increase local knowledge, and would impart more correct ideas of the constituent parts of that portion of the earth in our possession, and under our immediate control. The substances taken out of the earth in the various operations of society, should al-

ways be carefully examined, and experiments made with them. In deep recesses of the earth are hidden many precious treasures, and every generation of men have a part to perform in the development of them.

We descend far into the earth for the fossil which now warms so many of our houses, and on which we depend for heat in so many of our works of art.—There, also, we can find the choicest substances to enrich our land. All former researches of this nature have been followed with great reward, and there can be no want of motives to perseverance in the work.—The preceding remarks have been chiefly confined to substances, which, at the same time they improve the texture of the soils, act on them as manures, either by their stimulating influence, or by imparting the food of plants. Such substances form the principal resources for enriching land, in the progress of improvement on a farm. But there is also a mixture necessary as the foundation of improvement in many situations. There are sand barrens and pure clays which produce nothing, and manures applied in the common form and measure, will have scarcely any influence. A radical defect exists, and a remedy must first be provided for that, or all our applications will be as ineffectual and useless, as the administration of the most nourishing food to a sick man. A soil chiefly composed of sand is too porous; it does not retain enough of moisture; it admits light and heat so freely, as to cause a very rapid dissolution of all the vegetable matters that happen to be incorporated with it. We call it hungry soil, and say manure does it no good. We conclude manure does no good, because it never lasts till any crop is matured. Its force is all expended, like that of a prodigal son, before the highest energies have ever been demanded.

This soil we should not attempt to cure with mere palliatives; we should engage at once in the work changing, totally changing, the texture of it. Many of the substances already enumerated can be applied in such portions, as will greatly alter the character of a sandy soil. Alluvion, that has been collected by streams passing over long beds of tenacious earth, with a portion of peat and other vegetable matters, may possibly prove sufficient to remedy all the defects of it. But there is a more expeditious and much cheaper method of accomplishing the object. Clay, extensive beds of which are generally found in the neighborhood of sandy soils, if mixed with them in large quantities will immediately and permanently change their character. The particles of these opposite sorts of earth will mingle in such a manner, that dews and rain will be well retained in the soil, and light and heat will be admitted in degrees sufficient to decompose vegetable substances, as fast as the growing plants will require nourishment from them; but not so fast as before, when there was so rapid a solution that plants were always left destitute of food in an unmanured state.

The clay pit should always be the first resort in the preparation of sandy barrens, to become fruitful fields. No definite rules are necessary in relation to the quantity of clay that should be applied; the eye and the hand will determine with sufficient accuracy enough, when the clay is laid on in sufficient portions to retain moisture, which is the first and principal object to be accomplished. Clay, in an unmixed state, is represented as the most unfriendly to vegetation of any of the primitive earths. All the properties of it, with the exception of its power to retain moisture, are said to counteract the vegetative principle. And some writers have endeavored to discourage, wholly, the use and application of it as an ingredient in soils. In poetic style it has been said,

"He that carts sand makes land,
He that carts clay flings his land away."

This index must have been originated in abstract views of the properties of clay, and without any attention to the defects of soils composed chiefly of the

opposite earth. Clay, in its natural state, retains too much water for the health and vigor of vegetation; it is too compact for the roots of plants to extend themselves and collect nourishment; it powerfully counteracts the process of fermentation, and plants growing in it often suffer in want of the necessary and proper food. Now all these qualities render it a highly important application on sand. Water passes too soon through sand, and is not compact enough to give shelter, firmness, and the necessary protection to the roots of plants. Sand powerfully promotes the putrefactive process and often completes it in all the vegetable matter it contains, long before the time of maturity in plants.

In the language of Agricola, sand "suffers water to filter easily through its pores; clay is highly retentive of water; sand promotes putrefaction, clay delays it; sand suffers the gases set at liberty in putrefaction to escape; clay absorbs the gases; sand opens an unobstructed path for the extension of the roots of vegetables, clay gives them firmness, in their course, and supplies the moisture which sustains them. In fine, the two may be classed among the contending elements, of which a union heightens their common virtues and subdues their defects."

Clay and sand are the principal earthly ingredients in all soils. The operations of nature have combined the opposite qualities of them in such a variety of ways, as to produce that diversified texture of soil which is found in every country. It must be absurd for us to think the course of nature, in this respect, cannot be usefully imitated by art; that where sand is found in its simple state, it cannot be reduced by the admixture of clay to a good vegetable mold.—We cannot easily engage in any work more certainly useful, or that will ultimately prove more productive. The up hill to be encountered in this sort of labor would discourage no man; every step brings gain and brightens the prospect. In these operations the valleys are raised and the hills are beautified. It is work not necessary to be repeated every year or in any short succession of years, but when once well done it is done for ages.

The utility of mixing sand with clayey soil is seldom questioned. This is generally down hill work, and sand is carried in much larger portions on to clay, than clay is ever carried on to sand. Hence, probably the notion that it is good to cart sand but bad to cart clay. The effects must be reciprocal and would always so appear, if the work in both cases were equally well performed. Doctrines which demand few laborious duties gain an easy currency, whether they relate to philosophy, morals, or religion; they are likely to grow too popular and to be carried into great extremes. This has been the fact in the estimates made of the uses and in the application of sand; the results have been so manifestly and greatly beneficial, when properly used, the conclusion has been too hastily drawn that its influence must every where be salutary, and sometimes it has been used like the good woman's "sugar, in every thing." The common notion that sand is a suitable application for low and moist lands, is correct only in relation to soils of a particular texture. Many of the lowlands have a very loose and spongy soil; there may be defects in them, but sand cannot be the proper remedy. Some low and moist lands will be found, on examination, composed chiefly of sand to the depth of several feet. Mix sand with sand to any extent, and the product can be only sand. Sand-hills are treasures, but like every other sort of earthly treasure, valuable only in the proper use of them. There can be no more tendency in sand to stimulate a soil of similar quality to renewed exertion, than there is in increasing wealth to stimulate the miser to deeds of generosity. The proper uses of sand in agriculture are its application to tenacious soils, for the purpose of opening and destroying the rigidity of them; and to clay for the purpose of reducing it to a state in which the roots of plants can travel and find nourishment. Sand should

always be used in compliance with the rule of mixing different qualities.

In closing a discussion of this sort, it may not be deemed strictly proper to present even a summary view of arguments, which, on a different occasion, might be used in persuading farmers to an early and persevering engagement in the work of mixing soils. It seems to be the business of this discourse to describe useful courses, rather than urge the pursuit. It may, however, be allowable to direct attention to the growing importance of the subject we have been considering, in language used about forty years ago, by the late lamented Dr. Mitchell:

"Hitherto," said that accurate observer and enlightened friend of progressive improvement, "Hitherto the American husbandman has cultivated a soil, enriched for ages by the yearly addition of a fresh stratum of mold. From the first existence of vegetation upon the dry land, decayed plants have continually furnished a supply of manure, which the winds and the rains have liberally spread abroad. As the supply was annually greater than the consumption, the earth, unexhausted by its productions, increased in fertility. The thick layer of vegetable mold which covered the face of the earth, was a storehouse of food for plants, and their quantity was greatly increased by the conversion of wood into ashes, by clearing. It is not wonderful then, that for some years, newly cleared settlements should abound in produce and require little more labor than that of ploughing and reaping; for during this period, the provision is wasting which for centuries had been accumulating. But the time will come, and indeed in many places now is, when the land, repeatedly wounded by the plough share and exhausted of its richness, shall be too weak of itself to make plants grow with their former luxuriance.

"This may be called the ERA OF SYSTEMATIC AGRICULTURE, when man, taking the earth from nature's hand, bare of manure, is so to manage and dispose it artificially, that it shall yield first a subsistence and then an overplus to grow wealthy upon. How far art may go in this species of improvement is yet unknown, as the *ultimatum of fertility* has never yet been reached. As far as experiments have been made, we find the earth liberally affording its produce in proportion to the labor and skill bestowed in its tillage; and as the ingenuity and invention of man may increase to an unknown and incredible degree, so may the improvements and management of husbandry keep pace therewith, until the most fruitful spot that now exists may produce a ten-fold quantity, and the land which now supports an hundred men, give equal enjoyment to a thousand."

(From the New England Farmer.)

REMARKS ON PROPAGATING FROM HYBRIDS.

MR. FESSENDEN.—In a late No. of the American Farmer, is an editorial article relative to two varieties of Indian corn produced from a hybrid. The following passages in it will serve to explain the few words subjoined by way of comment.

"For the purpose of improving Indian corn, last year he impregnated the pistils (silk) of the large white Tuskarora with the pollen from the tassels of the Golden Sioux. The result was a perfect hybrid between the two. The grain being of a pure brimstone color, of the size and form of the Tuskarora, and like that with eight rows on the cob."

"We planted this corn last spring; the stalks were very dwarfish, resembling those of the Sioux."

"It is now ripe, and on examining it, we find that the original colors have separated, and instead of the brimstone color, we have, on every ear, grains of the bright yellow Sioux, and the pure white Tuskarora. But the quality of the corn is evidently superior to either of the original parents; although the colors have resumed their original tints. This is to us a singular circumstance; and one we are unable to account for."

As we are all learners beyond the limits of positive science, and this subject, viz. that of the laws that influence character in the generation of both vegetable and animal life, is one of the darkest, yet remaining for elucidation, we wish in common with this writer to elicit light from some one able to treat the inquiry in an elaborate manner.

Although the grains of the new varieties of corn resumed the original colors of the parents, yet it appears that in essential qualities they were different from them and superior to either. The gentlemen who made the experiment, thinks that according to what he supposes to have been settled as the law of nature, the color of the grains should have been that of the hybrid, sulphur color.

There appear to be many cases analogous to this, both in animal and vegetable life. It is admitted to be a law of nature that *like will produce like*. But it seems to be limited in its application to species, and not extended to varieties and individuals, at least with sufficient uniformity to deserve the name of law or a rule of nature.

Among animals, a common hybrid, the mule, is generally supposed incapable of producing young, at all. There are however, a few well authenticated cases to the contrary, and but a few. In one that occurred in Scotland, about the year 1760, the progeny is represented as hideous, and though the offspring of a horse and a female mule, the foal resembled an ass much more than the mule did—the head at its birth being larger than the entire body besides.

The vegetable hybrids for a long time after the impregnation by hand was adopted, for the purpose of procuring improved varieties, were supposed to be incapable of reproducing their kinds. What is now the amount of the evidence to the contrary we know not. But thus far seems clear, that as perhaps all fruits and flowers, now existing were produced by accidental or artificial impregnation, or from seeds of hybrids, so it is a well known fact, that the seeds of the apple and the pear, and the stone fruits, cannot be relied upon to reproduce their kinds. Nature seems to be constantly at work in the process of generating new varieties. That the seed of a sweet apple, or the stone of a free-stone peach, should bring to perfection within itself a thing so unlike its parent as a sour apple, in the one case, and a cling stone peach in the other, is perhaps, as surprising, as that the hybrid corn of the writer in the American Farmer, should furnish nature an occasion for the exercise of her prolific power, and love of variety. Providence has always some beneficent designs in all results; and in none are we permitted to see this more distinctly than in the tendency of crosses, vegetable and animal, and we may add, *moral*, to produce valuable improvements.

We quote the following passage from the same piece, for the purpose of carrying our remarks one step further.

"The only thing analogous is the proposition advanced by an able writer some time since in the columns of the American Farmer, that the offspring of cross breeds of animals would, instead of partaking of the mixt character of the immediate parents, assume that of one or the other of the original progenitors. How far this proposition may hold good with animals we do not know, but it certainly appears to be the case in the vegetable world, at least so far as the fact above stated warrants the formation of an opinion."

He, however, doubts the fact stated in regard to animals in its general application, because, as he very ingeniously explains, he does not see but that, "if the two kinds of corn, which were combined in the hybrid, have become distinct varieties, they are each of them the produce of one distinct parent; the one of the Tuskarora female, the other of the Sioux male." But he afterwards, towards the close of his paper, says that these new varieties of grain were neither of them either pure Tuskarora or pure Sioux, but partook of qualities, in part, of both. Which fact goes to prove

what alone seems probably true, in regard to the progeny of cross breeds of animals, viz. that they may resemble their original progenitors more than their immediate parents. This is not uncommon in the human race, and is a fact, we believe well established in regard to domestic animals generally. Sometimes too, members of the same family bear little or no resemblance to each other, or to any known ancestor.

In the vegetable kingdom, the intermixture of different sorts from mere juxtaposition or the force of other circumstances, takes place where there is a certain affinity. So that each individual as a parent, may come to have the power to transmit in various degrees and unequal proportions, the qualities of all preceding generations.

This is a state of things which would seem likely to baffle any attempt to secure in the descendants, any one or more marked and valuable properties of the immediate parents by direct propagation from seed.

This gives rise to the question, whether any principle can be settled on sufficient grounds, by which, in breeding or raising improved stocks of animals or vegetables, a liability to the reproduction of infirmities and undesirable qualities can be overcome?

There is a vulgar saying, that in every apple or pear, there is one seed larger than the rest, which, when planted, will give the parent fruit. A selection of grains from an ear of corn is sometimes recommended to prevent degeneracy in future crops. Some persons are attentive to save for seed a favorite kind of potatoe, such as have the characteristics of the particular sort. This all goes to show that there is an inability in the crop generally to maintain the stock in another generation. The finest individuals among horses and horned cattle, particularly males, are chosen to continue the species.

Now, if the parents of all these individuals, vegetable and animal, or any of their ancestors, not very remote, were ordinary, the defects, whatever they may have been, will lurk in the constitution of these fine individuals, and may chance to appear, even through them, in the next generation, and, if not in the next, in some succeeding one.

The basis therefore of the science of breeding domestic animals, as understood and practised upon by high breeders in England, is, we believe, to propagate from individuals only, both on the side of the male and female, whose ancestors have been for some generations, the longer the better, distinguished for the finest qualities.

If the object be to obtain superior milk cows, then to breed from animals, all whose female ancestry on both sides, have been thus distinguished. If for beef, then from individuals of a family remarkable, on both sides for many generations for the small quantity of offal, &c. With this care, it is obvious, that the chances of fine individuals producing inferior young, will diminish with each generation, and the liability be at length wholly at an end. And, by the bye, it might have been suggested by Jeremy Bentham, had he lived a few years longer, or may be still by some other political reformer, that, if monarchy is to remain on the earth, it would be well to breed scientifically for the throne.

SEED WHEAT.

Mr J. Lake, of Greece, Monroe Co. N. Y., advertises from 800 to 1000 bushels of White Bald Indian wheat, which he considers the best sort now in use. The growth is similar to the old kind of red chaff, but fills much better. Some farmers are acquiring a reputation, and consequently an income, for a superior breed of sheep, others for that of cattle; some are known for their success in rearing fine horses, others as having much improved breeds of swine, some again, by great pains, obtain excellent grain, which sells for a good price, and others originate superior varieties of fruit. How wide is the field before the enterprising and thoughtful farmer!

HORTICULTURE.

(From the Norfolk Advertiser.)

DEDHAM SILK WORKS.

Our goodly town of Dedham, long and justly celebrated for the manufacture of itch-ointment and other nostrums, bids fair to take the lead of all other towns in the country in the manufacture of a much more noble and important article—that of SILK. Through the untiring perseverance of our townsman, JONATHAN H. COBB, Esq., this hitherto neglected branch of industry has been brought to a degree of perfection which does honor not only to the manufacturer and to the town, but to the state. Mr. C. has several thousand mulberry trees, but the quantity of silk he grows is very inconsiderable, in comparison with what he manufactures. His spinning machinery, propelled by water-power, is capable of preparing annually one thousand pounds of silk for the loom.—The three Messrs. Golden and Mr. Hardy, now in Mr. Cobb's employ, are from England, and have had much experience in the silk business. There are a number of looms in operation in this town, and several in the neighboring towns; these are worked by hand, and in most instances by persons in their own abodes. As the culture and manufacture of silk are daily extending in our country, and many are in want of information on the subject, we have sought and obtained for publication the following correspondence, from which some useful suggestions may be gathered.

JONA. H. COBB, Esq. —————, Sept. 4, 1832.

Dear Sir,—As you seem to me to stand at the head of the silk growing branch of the agriculture of Massachusetts, you will permit a stranger, a citizen of the state, to address you on that subject. You must know then, sir, that I am one of the ejected clergy of old Massachusetts, and am reduced to the necessity of trying the friendship of mother earth, as the only means left me to a subsistence, and a support for my family. And as about forty years of my life have been passed away in the theological culture, I have deemed it expedient, and in a manner necessary to devote the small remainder to a business less laborious than ordinary husbandry to meet the unavoidable imbecility of age.

The raising of silk has seemed to present an opportunity the most eligible of any within the compass of my knowledge. The prescot is the fourth year from the seed of my mulberry plantation, and the second of my attempt at making silk; both of which have, on the whole, prospered beyond my expectation, totally ignorant as I was, at the commencement, of every thing pertaining to the art. I have 1400 or 1500 trees in a flourishing state, from which between thirty and forty dollars in sewing silk were realized the last year, to which we hope to find something added the present, the article being not yet quite ready for the market. Our reeling you will pronounce defective, and much of the profit from our labor, of course, wasted. To this evil we wish to apply a remedy, by substituting something better for the common reel, which, for the present, is the best, and indeed the only instrument for the purpose, with which we have any acquaintance. We learn from your Manual, that you have a reel, with which you prepare raw silk for the market, whether domestic or foreign. The object of this communication is, particularly, to obtain from you, sir, the information and advice we need, relating to this matter. How can we obtain your reel, with the requisite knowledge to put it to use? Would a man of good mechanical ingenuity learn enough of it, in a short time, to be able himself to use it?

In four or five families in this town, except my own, silk has been produced the present season. We are all in need of instruction and aid. Will you be good enough, sir, to answer this, and give us the assistance

which your experience and superior knowledge enable you to impart? We wish to be better prepared for the operations of another season than we were for the last. With much respect, I am yours,

Dedham, Mass. Sept. 7th, 1832.

Dear Sir,—The result of your efforts in silk culture seems quite encouraging, and could not have been obtained without considerable patience and perseverance. I should think that you would make most money out of it by spending your labor in producing the greatest quantity of food for the insect, viz: the leaves, in raising the greatest number of cocoons in proportion to your means, and in reeling them into raw silk in the gum—and stop there. I will buy your raw silk, when reeled, and pay the fair market price for it, or it will sell in any part of Europe. I should be glad to get it at the same price for which I get the foreign Calcutta silk, for which I have paid \$3.75 in its raw state, but the price of raw silk varies from two to seven dollars according to the nicety with which it is reeled. The business of manufacturing cannot be carried through all its processes in one facility to advantage. I have spent considerable time and money in the manufactory, and have at last got it to such a degree of perfection that I can compete with the foreigner in some articles. The silk, after being reeled, passes through my press—hard silk engine, where it is wound from skein to bobbin—clearing frame, where it is cleared of knots and husks—spinning frame, where it is twisted single from spindles—trammung machine, where it is doubled till it makes a thread of any size required—throwing machine, where it is again twisted together any number of twists to the inch required. It is then cleansed by boiling out the gum, &c.—then dyed—then wound on bobbins—it is then fit for the weaver's use. I have manufactured from two to three hundred weight of silk the past season. I enclose a sample of my vesting. I make furniture bindings, suspender webbing, handkerchiefs, vestings, and any thing that will pay—the hosiery made from my silk, woven at a factory in Boston, is much preferred to the imported, and sells to a better profit.

The art of reeling is what seems to be most wanting in this country, and should receive some state patronage. My reel answers the purpose for families very well. I reel the silk that I raise on it, and will furnish one of the reels, and learn a person to work on it, for \$25. I have sent one of them to Rhode Island and one to Connecticut. The art of reeling may be acquired, by patience and experience, to as great perfection as it has attained any where; but the learner is slow at the beginning, and I cannot afford to learn people for nothing, and find them board and silk to waste, as they necessarily must waste some at first. If you should think it worth while, several of your neighbors might join and have a reel made—I will undertake to have one completed for you in a month—then send down an intelligent young man, and I will show him so that with a little practice he will make a marketable silk, and be able to instruct others. Very respectfully, your obdt servt.

JONATHAN H. COBB.

(From the National Intelligencer.)

ON THE SILK CULTURE.

Brighton, near Boston, Aug. 20.

Messrs. Gales & Seaton:—Gentlemen: It gives me pleasure to recall myself to your recollection by furnishing you with some important and useful information, which, if made use of by our fellow citizens of all the states of the Union, would produce great results. The information I allude to was communicated to me in the past week by Judge Henry Bry, a distinguished citizen of Louisiana, and a native of Geneva, Switzerland. That gentleman has devoted himself to agriculture, and all the sciences appertaining to it,

and has made numerous improvements and discoveries.

The silkworm has particularly attracted his attention, as offering a golden harvest to all who will systematically cultivate it. The great difficulty that has hitherto existed in procuring certain crops, arose from the uncertainty of the weather at the season when the first leaves of the mulberry tree are put forth; they being very frequently blighted by cold, and the young budding leaf being necessary for the newly hatched worm. Millions of money have been lost to Europe in consequence of blighting frosts, and many fortunes ruined and made by speculations upon the extent of the crop, it depending upon a north or south wind. In the middle and northern states the uncertainty of our spring weather has proved a great obstacle to the extensive cultivation of the silkworm. Judge Bry, after mature reflection, conceived the idea of remedying that difficulty, and has successfully overcome it. Immense results will flow from the discovery, if our people think proper to avail themselves of it.

In the month of September (last past, I believe,) he gathered a quantity of the best full grown leaves from the mulberry tree, taking care they should be free from dirt. They were carefully dried in the shade, on linen and other cloth; and when perfectly so, were put into sacks, hung in an airy and dry place, until the proper season arrived for the hatching of the worm. When ready to use them, he pounded the leaves exceedingly fine, and moistened them with steam, which, upon experiment, proved to be equally good, if not better nourishment than the best young leaves.

Thus has the genius of that gentleman surmounted the difficulty in the useful cultivation of the silkworm, which has existed ever since the art of making silk was known. He has effected another curious discovery with the silkworm—he has made them weave their own silk, in cloth of the substance of so thin a gaze, that a large print can be read through it; and also of the thickness of buckskin. The cloth is very durable if not destroyed by moisture.

Our people are not aware that the cultivation of the mulberry tree is extremely simple, and that the bush of two years' growth affords the best feeding. It may be planted as hedges around all inclosures, or more extensively cultivated in rows, like Indian corn. There is no difficulty in feeding and rearing the silkworm, or in reeling off the silk. The whole process in Europe is done by women and children of all ages, and five or six weeks is the greatest extent of time employed in feeding the worm.

I am happy, gentlemen, to make you highly useful and respectable paper the channel of conveying the above information to our fellow citizens, in the expectation that you will give it a conspicuous place, that it will be widely circulated and lead to some good.

I hope to be able before long to send you some valuable information promised me by Benjamin Gardener, Esq., our worthy Consul at Palermo, on the subject of cultivating sumac, a plant that was intended by nature to become one of the sources of wealth in our middle states, especially in the neighborhood of the District of Columbia (the land of my nativity,) the soil and climate being well adapted to it, and a good deal of it now is either running to waste, or is covered with your native sumac.

Your obedient servt.

C.

PLUMS

We have this year in endless variety and great abundance. Seedling egg and gages seem to predominate; they are of all colors and sizes, and some very good. The *Washington Bolum* has this year shown fruit, and reaches all of our expectations, both as to flavor and size, many of them measuring more than six inches in circumference, they are a gage strictly, with a small stone and of a sugary sweetness.—*Gen. Far.*

RURAL ECONOMY.

(From the Genesee Farmer.)

CIDER MAKING.

The manufacturing of apples into cider is, strictly speaking, a chemical process; and yet few who practice it, govern themselves in their operations by chemical principles. In making cider, the same care is necessary that would be required in making wine from grapes, where it is desirable to produce a fine article, as cider when well made, might with propriety be called a wine from apples, and with proper care may be made equally as palatable, and more conducive to health, than most of the wines retailed in the country at the present day.

In our first volume we gave directions for making cider; but as many of our present readers were not subscribers for that volume, we will repeat them, hoping that many may be induced to follow them, at least so far as to save themselves the mortification often manifested by indolent farmers, when proffering a glass of sour, musty cider to their neighbor, attempting at the same time to save their reputation by saying "their cider is rather hard as the cask is almost out," when in fact, it had the same disagreeable flavor when the cask was first broached.

In the first place, we take it for granted that most of the northern states produce apples which are capable of being manufactured into the finest quality of cider. We would not be understood, when speaking of fine cider, as preferring it according to the quantity of alcohol contained in it, but, on the contrary, we think that most desirable which has the least, provided their is sufficient to make it generous, and prevent its running into the acetous fermentation. The produce of every orchard in Western New York is sufficiently rich, when properly prepared, to insure it against this evil, without any addition of saccharine matter, or increasing its strength by reducing its quantity, by boiling, freezing, or any other process whatever.

One very important thing to be remembered by farmers is, that good cider cannot be drawn from foul casks. Unless casks are carefully cleaned as soon as the cider is drawn from them, or made so perfectly tight that they cannot dry or become musty, it is almost impossible to cleanse them so as to be fit to use a second time, without injuring their contents.

The most effectual way of cleansing casks that have through neglect become foul, is by taking out one head, when they may be scoured and scalded as occasion may require.

Having clean casks in which to put cider when made, care should be taken that all the utensils used in the making should be clean, and destitute of any disagreeable taste or smell.

Much has been said as to particular varieties of apples for making fine cider, from which many have drawn the conclusion, that it was impossible to make fine cider from common apples, as produced by most of the orchards: this is a mistake. With proper care, a liquor may be made from the apples as collected from orchards, whether grafted or not, equal in flavor to much that is sold as *wine* by our second rate dealers, and at the same time more conducive to health, being destitute of many noxious articles made use of by our wine dealers and wine manufacturers.

We know it is a common thing with some farmers, when gathering apples, to pick up all such as are what they call "red rotten," which they say do not injure the flavor of the cider; but this should not be allowed; all apples which are unsound should be rejected; neither should any leaves be allowed to enter the mill with the apples.

Different opinions prevail with regard to the construction of the mill for preparing the apples; but a mill of almost any construction will answer the purpose if in repair, although some are more convenient than others, and are capable of making a greater quantity from the same apples than others; but in

whatever mill the apples are ground, they should be so bruised as entirely to change the color.

After the apples are ground they should, if circumstances will permit, be allowed to remain in the vat from twelve to twenty-four hours, during which time the pomace should be frequently stirred that the color may be more uniform. After the cider runs from the press, it is mostly put into barrels and carried into the cellar for fermentation. Some prefer large tubs or casks for fermenting in, others allow the cider to remain in the casks in which it was brought from the mill. This matter should be decided upon before the cider is put into the casks, and the operation conducted accordingly. If the fermentation is to be in tubs, it is not so important that it should be finely strained, as whatever of the pomace remained in the liquor, would be brought to the top in the form of scum, and in all cases the clear liquor should be drawn off before this descends to the bottom. If, on the contrary, the cider is to remain in the barrels to ferment, too much pains cannot be taken in straining, to prevent the pomace from entering the barrel, as it would rise to the top, and much of it adhere to the top of the barrel, and must either descend through the cider or remain upon the staves, giving a bad flavor to the contents of the cask. When cider is to remain in the cask, it should be strained through flannel, the same as when drawn from the tubs. After the first of the fermentation is over, the bung hole should be covered with a cloth, on which should be placed a weight to keep the air from entering, while it allowed the gas from within to escape.

When cider is to be racked twice; the first should take place as soon as the fermentation has subsided; but when it is not intended to be racked but once, it may remain until the liquor has become quite still. After the last racking, about two quarts of skim milk should be added to each barrel, and well incorporated, after which the cask should be bunged perfectly tight. Those who prefer sweet cider, should check the fermentation by fining with milk before all the saccharine matter is destroyed; but those who prefer a dry cider, should leave more time for the fermentation.

A most pernicious practice prevails with some farmers, of putting into the barrels at the mill straw bungs, allowing them to remain in until the cider is drawn. This is not only a lazy but slovenly practice, and should be carefully avoided.

(From the New York Farmer.)

PRESERVATION OF BACON.

Middlesex, July 9, 1832.

Sir,—In the Genesee Farmer of June 30th, notice an article on the preservation of bacon, by means of charcoal, which meets my views perfectly. Charcoal is certainly the best anti-septic that we know of, and I think if run through a tanner's bark mill, would be reduced about fine enough. An inch or two of the coal, laid in the bottom of a cask or box, and the hams laid on it in close order, then covered with charcoal, then another layer of bacon, covered in like manner, and so proceeding with layer after layer, covering each with charcoal, I think it will be perfectly secure against any rancidity, taint or worms.

Yours, &c. R. M. W.

(From the New York Farmer.)

SCOURING OF HORSES.

Middlesex, July 5th, 1832.

MR. EDITOR,—This complaint has been very prevalent among horses at different times. The following remedy I have never found to fail. Take a quarter of an ounce of gum gamboge, half an ounce of aloes, half an ounce of saltpetre. Reduce all these to a fine powder, add flour and water until it is of a consistence of unbaked dough. Divide it into four pills, about the size of an egg, give one pill every

night and morning; they will soon correct the scouring. If the horse has much fever, take half an ounce of ipecacuanha, add to it about two quarts of hot, but not boiling water, put about half a pint of this tea to a pail of water, and let the horse drink it. About three half pints should be drank in the course of the day, while any fever continues; when this is removed, then, and not till then, take a quart of oak bark, (such as is used for tanning) with the rosin taken off, add to it two quarts of hot water, let it stand till cool, then add a pint of this tea to a pail of water, and let the horse drink freely of it through the day, I have never known these remedies to fail in effecting a cure.

Yours, &c. R. M. W.

(From the New York Farmer.)

HOVEN CATTLE.

July 7, 1832.

MR. FLEET:

Take half a gill of spirits of ammonia, (or hartshorn) add to it a pint of cold water, and give to the sick animal. I have seldom known this to fail to give immediate relief.

R. M. W.

(From the New York Farmer.)

LEMON SYRUP.

The United States Telegraph gives the following receipt for lemon syrup, which, says the writer, will remain good for many years, even in hot climates, and will serve a family as long as six bottles prepared by the confectioners. To every pint of the strained juice, add one and three quarter pounds of white or Havannah sugar; put the mixture in a bell-metal vessel, and let it simmer over the fire until the juice under the froth becomes clear; put the clear juice into bottles well corked.

(From the New York Farmer.)

YELLOW WATER.

Middlesex, 7th July, 1832.

MR. FLEET:

This complaint has been fatal to many fine horses. I have rarely known the following treatment to fail of effecting a cure. Take a quarter of an ounce of gum gamboge, half an ounce of aloes, and half an ounce of saltpetre; reduce all to a fine powder, mix flour and water until it is of the consistence of unbaked dough. Divide it into eight pills, give one pill every morning and evening. Take half an ounce of saltpetre, add to it a quart of cold water, add about a half pint of this to a pail of water four times a day, and give it to the horse to drink. This treatment should be continued eight or ten days, and I believe, will effect a cure in most cases.

R. M. W.

MISCELLANEOUS.

HYBRID CAT.

MR. SMITH: Columbia, S. C., Sept. 15th, 1832.

Dear Sir,—I see, in the American Farmer of the 31st of August last, the relation of a "singular fact" relating to your experiment in producing new and valuable varieties of Indian corn, by "impregnating the pistils (silk) of the large white Tuskarora with the pollen from the tassels of the golden sionx," &c. The result being a perfect hybrid of a beautiful color, and decidedly partaking of the distinct properties of both parents. "This being planted last spring, it turned out, to your surprise, that the two original colors have separated, 'seemingly resolving themselves back to the separate property of each of the originals, viz: The Tuskarora and the golden sionx,' though 'the corn is evidently superior to either of them,' &c. You request that, if any analogous case in the animal kingdom has come to the knowledge of any of your friends or correspondents, they will in-

form you of the circumstance. A case very similar to this has occurred here, as follows: About twelve years since, I brought a male Angora cat from France, (not having been able to procure also a female one of a proper age.) The consequence was, a mixture with our common cats, partaking evidently, though not strongly, of the male parent. Notwithstanding our anxious wish to continue this beautiful breed of cats, with the only half means in our power, we never had one that showed more than slightly the blood of the Angora. The thickness of the coat and the fine texture of the hair, were certainly evidently improved; but in the length the improvement was very little.—The imported cat died about four years since, and this last spring we got a kitten from one of the apparently common breed, having the long silky coat and bushy tail of the Parisian cat. I am also told that one or two other kittens, bearing similar marks, are seen in the town. My cat, which I called "Paris," having begun life as a great traveller, continued this acquired propensity after he was settled permanently, and he made extensive visits in the town, and has even been seen two or three miles in the country. He was a beautiful animal, dark brindle. Having

been taken from its mother when quite a small kitten, scarcely able to lap a little milk, he suffered greatly on board ship, notwithstanding all the cares and attention bestowed on him by the kind hearted sailors. His constitution was considerably impaired by it. Here is a case, then, in which there can be no mistake; for no such a cat had ever been before or since in the state, and the peculiar properties of the animal have been dormant for years, through several generations, and make now their appearance with characters very near equal to the stranger parent of several generations back. The present kitten was raised by some of my negroes, who noticing its resemblance to the old stranger, named it after him, "Paris;" and the little animal has been taken into favor, and is now in the house.

Trifling as this subject is, it is a strong case, and may show the great difficulty of searching deeply into nature's secrets, and may assist philosophical inquirers in their researches. This case may be relied on as a most undoubted one, known here to hundreds of most respectable people, and the irresistible evidence of which is now before me. I am, very respectfully, dear sir, your obdt serv't. N. HERBEMONT.

METEOROLOGICAL JOURNAL.

For 8th mo. (August,) 1832, kept at Clermont Academy, near Philadelphia, by S. S. GRISCOM.

Day of the month.	Therm. at sunrise.	Clouds.	Wind.	Remarks, a.m.	Therm. at 3 p.m.	Clouds.	Wind.	Remarks, p.m.
1 63	MCS.	SE 1	r	—70 MCS. NE 2 at m.	78	MC;CMS:	NE 4	68°
2 66	MC;MS:	NW 2		81 m; NW 1	86	C;MS;N:	W 2	r,—r, t, l, in night
3 64	0	0			87	MS,	SW 1	74 ms, SW 1
4 72	S.	0			94	NIMB.	SW 3	74 r, t, l, at 9 p.m.
5 72	NIMB.	0	r,		97	NIMB.	SW 1	74 t; l;
6 69	CMS.	0			96	M;	SW 2	74 ms SW 1
7 72	MCS.	SW 2	damp	—59 MCS: SW 4 at m.	91	MS:	SW 4	75 nimb.—! t. r. at 9 p.m.
8 72	MCS.	SW 2	damp	r,—77 SW r, at m.	84	MCS.	SW 4	70 cms. r. NW 2 at 9 p.m.
9 68	MCS.	NE 2	r;		76	MCS.	E 1	70 cms: SW 1.
10 69	MC;MS:	SW 2		79 ms: SW 3 at m.	82	C;N;	SW 2	69 ms. w1
11 58	0	NW 1			80	M,	NW 2	68 0 NW 1
12 59	0	SE 1	dense fog at 6 a.m. for an hour.		82	C;N,	SE 2	70 c, SE 1
13 64	MCS.	E 1			87	C,	SW 1	
14 72	MCS.	SW 1			87	C,	SW 2	
15 72	MCS.	SW 1			89		SW 3	
16 72	0		nimb. r, t, l,		91	MCS.	NE 2	r—73° at 3 p.m.
17 72	MCS.	SW 1	r.		90	MCS.	NE 2	66 at 3—62 cms. at 9 p.m.
18 59	MCS.	NE 1			69	MCS.	NE 2	r, 63 cms. NE 2
19 68	MCS.	SE 3			83	NCS.	SW 4	68 r; NE 2
20 62	0	NW 1		78 NE 1 at m.	81	MS;	NE 1	68 0. 0.
21 62	0	0		80 SE 2	80	MCS.	SW 2	65 0. 0.
22 62	Fog	0		84	W			71 SW 1
23 66	Fog	0			83	W		69 0
24 61	Fog	0			80	NIMB.	W	t, l,
25 55	NW 1		64 NW 2 at m.		67	C;	NW 2	55 0
26 55	NW 1		69 NW 1 at m.		72	C;	SW 1	59 SW 1
27 56	0				76	C;	SW 1	
28 62	MCS:	SW 1	r,		83	C;MS;	SW 1	
29 65	MS.	SW 1	damp		84	MS:	SW 1	71 at 9 p.m.
30 67	Fog	0	very wet		82	MS;	SW 1	72
31 70	Fog	SE 1	wet		87	M;C,	SW 1	73 r; t, l, in evening.

SUMMARY.

Mean at sunrise, 65.2.

" " P. M. 62.51.

" for the month, 73.85.

Minimum 55° on 25th and 26th.

Maximum 94° on 4th.

Range 39°.

Coldest day 61° on 25th.

Warmest day 83° on 4th.

Rain on twelve days.

Electricity on six days.

Aurora Borealis on two nights

Wind east on seven days and a half.

Wind west on twenty-three days and a half.

Fair sixteen, cloudy fifteen days.

Thermometer at 55° on two mornings.

" above 76° on twenty-nine days.

The month has been altogether very favorable to vegetation, and has largely increased the farmers' prospects for corn and fall pastures, for turnips, and all fall vegetables.

MEMORANDA.

1st. Hornets in the house, busy catching flies,

which are unusually numerous; these (the Vespa Crabro) being among insects what hawks are among birds, we should be great gainers by cultivating their friendship, and affording them protection; a single nest sometimes contains hundreds, and they would destroy as their lawful prey, many thousands of those insects which are troublesome, if not noxious.

2d. The reflection on the sky between the clouds very red after sunset—at 9, P. M. in the north, it very much resembled an aurora.

3d. The cats not yet all taken in. The Indian corn looks very well generally, though much of it is late, and an early frost would spoil the crop.

6th. To-day obtained from a swamp by the side of a stream, a most magnificent specimen of the Lilium superbum. It was quite ten feet high, with nine perfect flowers, larger, richer and more perfect than I ever saw before; the stem was perfectly erect and straight, nearly one inch in diameter at the base, and full of its beautiful leaves; it was accompanied by many of its own species five or six feet high.

7th, 8th and 9th. Much rain in heavy showers.

10th. Our willows and all in the neighborhood, present a curious phenomena—the branches are entirely covered with a species of aphides, so as to appear black at a distance, and hornets and two or three species of wasps (vespa) in great numbers are exceedingly busy among them. So far as I can discover, the wasps are chiefly attracted by the honey-like substance exuded by the aphides, though I believe both they and the hornets prey upon the defenceless insects—they remained in considerable force till in the next month.

16th. Thermometer 91 at 11 A. M., but before 3 fell to 73 in consequence of a thunderstorm.

17th. Thermometer 80 at 10 A. M., and fell to 66 at 3 P. M.

24th. Aurora in north.

25th. Another aurora. The papers tell us of snow on the White Mountains and frost at Albany.—An aurora at Quebec on the 24th, seen in the N. N. E. and south is thus described: "It was mostly in the form of large brilliant rays perpendicular to the earth, moving horizontally: at one time a beautiful shining ray passed from N. to S. At last it extended all over the horizon, and appeared towards the S. W. in immense sheets of light, moving constantly and with great velocity in all directions and having the appearance of running water on which the sun shines vertically. The light was nearly as bright as the moon." This same aurora was no doubt seen from this place on that evening, but presenting only some beautiful streams in the north.

In Salem and Cumberland counties, N. J. beds of the finest shell-marl have been recently discovered, and are beginning to be turned to very profitable account by the farmers. Its effects upon a poor worn out gravelly soil are truly surprising. The owner of one of the pits shewed me a field of buckwheat, which bore all the marks of complete exhaustion. Upon a part of it he had spread about two hundred bushels of the marl per acre, and on this part the buckwheat was three feet high, and as strong and vigorous as possible—but on that part where no marl had been put, it was scarcely three inches high, and looks as though it would not yield the seed which was sown. These beds extend over a great portion of N. Jersey, Delaware, Maryland, and all the states east of the mountains, thence to the Gulf of Mexico. A better manure cannot be found; and it is highly important that the attention of the owners of land in its vicinity should be called to the subject; especially as it happens, at least so far as I am acquainted, that the lands in those places where the deposits occur are mostly worn out lands. To geologists, the knowledge of the deposits in New Jersey will be exceedingly interesting, and especially as many of the fossils appear to be new, and completely prove the identity of this formation with the chalks of Europe, as recently made known by Dr. Morton, of Philadelphia.

Just received at the American Farmer Office and Seed Store, a small supply of genuine Cuba TOBACCO SEED, just imported, (in papers, not in bottles.) Price \$1 per ounce. Address I. I. HITCHCOCK.

SALE OF DEVON CATTLE.

The Subscriber will offer at Public Auction on Saturday the 13th day of October next on his Farm adjoining Westminster, Frederick, Md. his entire stock of DEVON CATTLE; consisting of "Teemchub" a full grown Bull 4 years old; Commodore, a Bull Calf 4 months old; 2 Heifers, Sally 2 years old, and Julia Ann 14 months old; and 8 full Devon Cows of different ages; also 2 Cows Devon and Alderney, and 2 Devon and best country Crosses. As the subscriber intends to discontinue the breeding of Cattle, the public may depend upon the sale being positive.

TERMS—Six months' credit will be given, the purchaser giving his note with approved security. Sale to commence at 10 o'clock. DAVID WINCHESTER.

THRESHING MACHINES.

The Subscriber would inform the public that he has obtained the patent right for FOX & BOILAND'S PATENT THRESHING MACHINE, for all the State of Maryland, with the exception of Washington, Frederick, and Montgomery counties, and also for the lower counties of the State of Virginia that lie contiguous to Maryland. These machines possess several and very important advantages over all other machines, which have been introduced for threshing. The concave bed to this machine is placed upon springs, which enables it to recede from the cylinder when over fed or, any hard substance gets in, this, with the peculiar form of the spikes and the manner of setting them, renders it impossible to break or injure the machine, and at the same time enables it to perform the work with about one-half the power required by other threshers. It can be readily set to shell corn with great facility, and also to break the corn cobs sufficiently fine to feed stock; it is likewise very simple, easily managed, and the price reasonable, say from sixty to eighty dollars, according to size, or including the horse power complete, from one hundred and sixty to two hundred dollars. For those counties referred to in Virginia, he offers the patent right for sale to include a machine with each county right. All communications by mail, post paid, will meet prompt attention. J. S. EASTMAN,

Pratt, near Hanover street, Baltimore.

PLANTATION FOR SALE.

The Subscriber offers for sale the plantation whereon he lately resided in Sassafras Neck, Cecil county, Maryland, one mile below Rose Hill, the seat of General Forman, and about fifteen miles below the mouth of the Chesapeake and Delaware Canal. It contains eight hundred and eight acres, of which about five hundred and fifty acres are arable, and for the most part in a high state of cultivation. The wood and timber abundant and fine. The quality of the soil is first rate, and little or none of the tract is waste. Its form is an oblong square, and is bounded on the South by Sassafras river, and on the north by Ponds creek, and may be said to be enclosed on two sides by water. On the tract is Ordinary Point, one of the most celebrated points for duck shooting in Maryland, especially for canvas backs. The situation is high, and commands a fine view of Turkey Point and the head waters of the Chesapeake bay, and is about mid-way between the Philadelphia, Brandywine and Baltimore markets, and has convenient landings for shipping the crops to either market. For the growth of Indian corn, wheat, timothy and clover, this farm is not surpassed on the Eastern Shore of Maryland, and as such offers the highest inducements to the farmer, the grazier, and the sportsman.

The improvements are a comfortable dwelling house, and other suitable buildings, a young apple and peach orchard, in full bearing, and a choice collection of other fruits. It will be sold low and the terms of payment made easy. To the capitalist it is an object for an investment, as the rents received will average per annum seven per cent. on the sum that would command it.

For further particulars apply to Leviu Gale, Esq. Elkton; James Rogers, Esq. New Castle, or to William Cooke, Esq. Baltimore. Captain Craddock, residing on the place, will show it to persons desiring to see it. O. HORSEY,

Sept. 7. 81. Petersville, Frederick Co. Maryland.

DEVON CATTLE, &c. FOR SALE.

For Public Sale, at the Three Ton Tavern, in Pratt Street, on Saturday the 3d day of November, at twelve o'clock, a choice collection of Devon Cattle, also, Horses, Asses, and Rams of the Bakewell and Southdown breeds, viz.

Fifteen Cows of the full blooded Devon, from Mr. Coke's breed, of Holkham, in Great Britain.

Four Bulls of the same breed.

Twenty-five Heifers and Calves of the same breed.

The stud horse Hickory, five years old, of the blood of the imported horse Exile, from a mare got by the horse Hickory. This breed of horses unites the qualities of action, strength, and docility more than any other known breed.

Sundry Horses and Colts—and Rams.

A Jack of the breed of the Knight of Malta, and of the Royal Gift, five years old, and a good foal getter—his sire cost \$800.

Two Jennies of the same blood,—five years and three years old.

The terms of sale are, cash for any sum under \$100; and six months' credit for sums above \$100, with satisfactory security. 1s Sep. 28.

BLOODED HORSES, BROOD MARES, AND COLTS FOR SALE.

At the residence of the late Alexander F. Rose, Esq. in Stafford County, Vir.

No. 1. ch. m. FLORA, fourteen years old, out of Miss Dance, by Ball's Florizel.

As the character of Florizel is so generally known, and ranks him among the most distinguished horses of his day, it is deemed only necessary to say, he was the sire.

No. 2. b. m. PET, ten years old, out of Miss Dance, by St. Tammany.

St. Tammany, the sire of Pet, was full brother to Florizel, and bred by Maj. John Roberts, of Culpeper, who purchased him a sucking colt, and, when only three days old, gave for him 100 guineas. When a colt he was put in training by Maj. Roberts, but an accident occurring, was withdrawn from the turf. In point of performance and appearance, his judicious owner esteemed him at that age as promising to be fully equal if not superior to his brother Florizel.

Miss Dance, the dam of these two mares, was by Rebeck, was bred by Col. Dance, of Chesterfield, and is well known to have been one of the finest mares in Virginia. When twenty-three years old, and owned by Maj. Roberts, \$500 was offered for her and refused. The dam of Miss Dance was by Independence, grand dam by the imported horse Centinel, or Flinnap, g. grand dam by the imported horse old Janus. Rebeck was by the imported horse Sweeper, son of Mr. Beaver's Great Diver; his dam by the imported horse Bagazet, son of the Earl of March's old Bagazet, son of the Godolphin Arabian.

These two mares are now in foal by Carolinian, a distinguished son of Sir Archy; and out of them are the following colts:

1. a ch.f. three years old, out of Flora, by Lafayette.
2. a ch.f. two years old, out of Flora, by Contention.
3. a b.f. two years old, out of Pet, by Contention.
4. an iron grey, one year old, out of Pet, by W. R. Johnson's Medley.

No. 3. ch. m. Virago, eight years old, by Wildair, dam by the imported horse Hamilton, grand dam by Spread Eagle. Wildair was by Ajax, and bred by Col. R. Walker, of Amherst, his dam by Knowsley, grand dam by Highflyer, g. grand dam by old Wildair, g. g. grand dam by Asa, g. g. g. grand dam by Aristotle, g. g. g. g. grand dam the celebrated running mare Hexisford.

Out of Virago, is a fine two year old filly, by Contention, and she has now by her side a beautiful bay filly, by Governor Barbour's imported horse Young Trulle, and is now in foal by Carolinian.

No. 4. ch. m. Nettle, seven years old, full sister to Virago, has now by her side a fine colt, by Young Trulle, and is now in foal by Carolinian.

No. 5. ch. m. Cora, six years old, full sister to Virago and Nettle, and in foal by Carolinian.

Out of Cora, is a beautiful ch. f. one year old, by Contention.

Application to be made to the Executors of Alexander F. Rose, deceased, Fredericksburg, Virginia.

Aug. 10. 2ms

FREDERICK SHORTHORNS.

I will sell from four to six COWS, of my former English stock, now in calf by Powell or Frederick, from six to ten years old, at from 30 to 50 dollars—such cows as have raised me my half bred Durhams, the females of which cannot well be in market for some years to come. Some of these cows have either bull or cow calves by their side, by the aforementioned bulls, and will add to the price of the cows from 25 to 50 dollars. The cows are offered at a price little above what they would be worth if well fattened. They have been kept almost exclusively for raising calves, and a purchaser would be referred to them, male and female, as great proof of their value—in the absence of the males, the price they have sold at. Also, two or three full blood Frederick BULLS, 18 months old, at from 75 to 100 dollars, and one or two HEIFERS.

R. K. MEADE,
White Post, Fredk Co. Va.

31

STRAWBERRY PLANTS.

The subscribers are now prepared to deliver to order, Strawberry Plants of the most approved kinds, which will be packed so as to warrant their safe arrival at any part of the United States. The months of August and September being the most favorable season for transplanting, will be well for those who wish to purchase, to give their orders early, and by care in planting, with an occasional watering, fine plants may be produced.

SINCLAIR & MOORE,
Aug. 10. Grant street, near Pratt-st. wharf.

LINNÆAN BOTANIC GARDEN AND NURSERY, FLUSHING, NEAR NEW YORK.

WILLIAM PRINCE & SONS in offering their *New Catalogues*, with reduced prices, have to state that their *Fruit Trees* are of large size and vigorous growth, and cannot fail to give perfect satisfaction by their superiority. *Ornamental Trees and Shrubs* can also be supplied of the largest size, and the collection of Herbaceous Plants, Bulbous Flower Roots, &c. is a collection of the most beautiful and interesting, and is unrivalled in extent. The assortment of *Roses* comprises above six hundred kinds, one hundred of which are Chinese and other monthly roses, and all at the lowest prices. The most of the Ornamental Shrubs and Roses are so superior in point of size that several may be readily propagated from one plant, as the finest only are selected for orders from the immense stock on hand.

Of the *Chinese Mulberry*, or *Morus Multicaulis*, there are several thousand trees of good size, the price of which is reduced to \$65 per hundred; \$35 for fifty; \$9 per dozen, and \$5 per half dozen.

Of the *Dublia* the assortment comprises three hundred of the most splendid varieties selected from the five largest collections in Europe, and owing to the large increase the prices have been greatly reduced.

Those who desire a considerable number of *Roses*, *Poonies*, *Dahlias*, &c. will be supplied at a very liberal discount.

About eighty thousand *Grape Vines* are now ready for delivery, comprising all the choicest table and wine grapes.

Of the *Camellia Japonica*, or *Japan Rose*, near one hundred varieties have been extensively increased, and the prices of these and other green-house plants are put so low, that this can no longer form an objection.

The *New Catalogues* will be sent to every applicant, and every invoice of *Trees* has a printed heading and our signature; and purchasers who do not send their orders direct, are particularly enjoined to insist on bills as above, as no other will be guaranteed.

Those who are not conversant with the varieties of *Fruits* can obtain Prince's Treatise on *Fruits*, which contains descriptions of near eight hundred varieties, and the Treatise on the *Vine*, and on *Horticulture* at the Office of the American Farmer, and of Carey & Hart, Philadelphia, &c. and the readiest course for persons at a distance is to apply to their local bookseller to send them.

Those persons who wish quantities of garden seeds, &c. imported from Europe suitable for retailing, will be furnished with a catalogue containing the low prices at which we will import them, and all communications will be attended to with promptitude and despatch.

N. B. A liberal credit will be given when desired.
Oct. 5. 21

THE FARMER.

BALTIMORE, FRIDAY, OCTOBER 12, 1832.

§ REMOVAL.—The American Farmer Office and Seed Store, has been removed to No. 16 South Calvert street, west side, a few doors below Baltimore street, and about 100 yards south of the old office at Barnum's hotel.

MALE MAELARA.—We recur to this subject for the purpose of recording the following letter from General Forman, of Cecil county, Maryland. It contains the best history, probably, that can now be obtained of the introduction of the male maclara into this part of the country. It will be seen that General Forman obtained it from Mr. McMahon, in whose grounds Messrs. Hibbert & Buist have now discovered another specimen. Our thanks are due to General Forman for his politeness in furnishing us with this additional and conclusive testimony to the fact, that the male maclara is not now for the first time known to cultivators. This testimony is also conclusive as to the genuineness of Messrs. Princes' male maclara; as they are the offspring of the General's tree, which tree had been in bloom several years, and there is no man in the country more capable of judging correctly of such things than he is.

MR. SMITH: *Rose Hill, Sept. 27th, 1832.*

Dear Sir:—I have been from home from the 13th to the 23d of this month, both inclusive; your letter is dated the 18th. It is not in my power to give you the exact date of my obtaining the male maclara. I purchased the plant from that excellent horticulturist Mr. Bernard McMahon, of Philadelphia, several years before his death, and I am greatly mistaken if he did not tell me, that he procured the seed from which it grew, from the expedition of Lewis and Clark.

This tree bloomed for several years, before it drew my particular attention, when being satisfied that it was a male, and occupying a place in my garden not suitable for so large a growth, and having several layers from it, the tree was dug up, the body measuring more than twenty inches in circumference. Three or four years after this, and in compliance with the request of Mr. William Prince, of Long Island, to whom I am indebted for many beautiful and rare trees, shrubs and plants, I, in the year 1824, sent him all the plants of this male maclara which I possessed, neglecting to preserve one for myself. By good chance, however, I, the following year, discovered in the nursery, a small sucker, and that sucker carefully measured this morning, grows eighteen inches in circumference. If dates are further necessary, you have only to ascertain the return of Lewis and Clark, and the death of Mr. McMahon. It would be a curious incident if Mr. McMahon grew only one male plant, and sold that to me. I am your obed't serv't.

T. M. FORMAN.

PLANTING FRUIT TREES.—On his return to Ithaca, after twenty years absence, it is said, Ulysses found his venerable father, Laertes, the king, in his garden planting fruit trees. Ulysses, being in disguise, asked the old man why he planted fruit trees, being so old that he could scarcely expect to enjoy the fruit. The old man replied—"I am planting them against my son Ulysses comes home." This story should be read by those who omit planting trees, because they consider it probable that any circumstance will prevent their enjoying the fruit. If they do not live to enjoy it, their children may; and if the latter do not, some one else certainly will; and if no other advantage accrues to the planter, the value of the land will be enhanced by it.

An old friend related to us a good story in point a few days since. Some eighteen years ago, he determined to plant an orchard, and selected the finest

fruit to be had. While engaged in planting them, however, being in feeble health, and the labor heavy and troublesome, he was almost discouraged by reflections such as these: I shall most probably not live to enjoy the fruit; at all events it will be a long time before I shall get any, &c. &c. Being, however, very much of a *Franklinian*, he would meet such mental arguments with the suggestion, that if he did not live to enjoy the fruit, somebody else would, and at all events the world would be a gainer by his labors. Such reflections, and counter reflections, continued to depress and elevate his spirits, till at last the whole orchard was planted and well finished.—Soon afterwards new arrangements in his affairs made it convenient to leave the farm, and he let it out for a term of years. A few years after, he met the manager of the farm, who informed him, that he had just gathered *twenty-eight barrels of apples* from four of the trees he had planted. The old gentleman also went to the farm and gathered *eight barrels* from a single tree. This circumstance, said the old gentleman, furnishes a good argument against the suggestions of the mind against planting trees. And so it does; but we are able to furnish a better one. How many persons are there now in the enjoyment of fruit, who can say, "*I planted the tree?*" Suppose that no one had planted trees but those who were to enjoy the fruit, how much fruit would the present generation have had to enjoy?

It will be perceived that our object in these remarks, is to induce those who have heretofore neglected it, to plant fruit trees. The expense is comparatively trifling—everybody can plant a few—some more and some less, and the proper season should never be allowed to pass without its being done. We do not think it necessary to say any thing as to the value of fruit—this, it is believed, there is but one opinion about, although this season of cholera has rendered it much less than ordinary.

The fall season is generally preferred for planting apple, and most other fruit trees, and the many nurseries of the country are provided with abundance of trees of the choicest fruit that the world affords.

In planting trees, let the holes be dug deep and large—the more so the better; provide a good stake for each tree, and drive it into the bottom of the hole before the tree is set; then throw in some of the top soil, and set the tree about the depth which it formerly grew, throwing in the top soil about the roots and finishing by tying the tree firmly to the stake.—In all the labor of planting trees, let the reflection that a tree well planted is worth a dozen badly set out, constantly occupy the mind.

MANUAL LABOR, OR FARM SCHOOL.

The Baptist Convention of North Carolina, have purchased the plantation of General Calvin Jones in Wake Forest, sixteen miles from Raleigh, N. C. for the purpose of founding there a Fellenberg school, which is expected to go into operation on the first of February next.

The above institution is in want of a scientific and practical farmer, to take charge of their farm, and to direct the labours of the pupils of the institution. It is desirable that he should have a small family and act as the steward of the establishment; and also that he should be a man of affable and conciliating manners; and, by uniting scientific with practical agriculture, be able to render that branch of labour instructive, useful and interesting to the student. The Principal of the Institution will be a Baptist minister, and it is desirable that the farmer shall be pious, and of the same denomination. The board of trustees will furnish the family of the farmer with every thing except clothing; and they wish to procure an individual as low as he can afford to take charge of the department for the first year; after that time, if their resources and prospects are sufficiently encouraging, his salary will be raised. An election will take place on the 15th of December next, and any further informa-

tion may be obtained by addressing a letter to James G. Hall, Esq. Raleigh, N. C.

We have thought that we should render a service to the cause of agricultural improvement, by endeavoring to forward the views of this Institution in this way. The object of the Wake Forest Institution appears to be to educate young ministers and all others who may wish to avail themselves of its advantages. It is founded on the manual labor system. No pupils are to be received under twelve years of age, and all are required to labour three hours each day under the direction of a practical and scientific farmer. The number of the pupils is limited for the first year to fifty.

The farm is pleasant and healthy, containing six hundred and seven-tenths acres; about four hundred of which is under cultivation. It is intended that no slaves shall be about the premises, so that every thing may be managed with economy and good order, by the farmer and pupils themselves. One of the grand objects of the Institution is to overcome southern habits and prejudices against manual labor, and to promote habits of industry and economy. We shall be gratified if we can in any manner, forward the designs of the Institution.

MANMOTH PUMPKINS—a new kind.—One of our ingenious countrymen from the east, a year or two since, purchased a mammoth pumpkin of a farmer in Pennsylvania, weighing near 200 lbs., put it into his wagon of "all sorts of notions," and drove to a field a few miles off, containing a great number of common pumpkins. Here he cut a hole in the mammoth, took out the seeds, and filled the whole cavity with common pumpkin seeds from the field. At the next village he was seen retailing these mammoth seeds, fresh from the pumpkin—and of course there could be "no mistake"—at four for a cent.

PETRE PEARS.—Col. Carr of the Bartram Botanic Garden and Nurseries at Kensington, near Philadelphia, has presented us with a box of these delicious pears, from the original tree growing in his establishment. We had never tasted this pear before, and now take pleasure in giving our testimony in favor of its superior excellence. They are of good size, exquisitely flavored, thin and tender skin and very milky and buttery. Indeed it is very far superior to the generality of pears which are considered good.

CATAWBA GRAPE.—We ought to have mentioned in our last, that Mr. Robert Sinclair has left at our office a fine specimen of Catawba grapes grown at his nursery near this city. It resembles the Bland grape very much both in appearance and flavor.

INJURY TO GRAPEVINES.

MR. SMITH: *Columbia, S. C., Sept. 15th, 1832.*

My Dear Sir:—The writer of the article on the vine, of Sept. 7th, inst., seems not to be aware that it is not properly speaking the severity of the winter that injures the vines; but rather, the severity of the first frosts in the fall and the last in the spring. It is obvious that when the young shoots of the vines are yet tender and not hardened, and full of sap, a severe frost coming after warm weather must do much injury. Also, when after a long spell of warm weather in the spring, the vine is growing vigorously, and is at that time very full of sap, a severe frost happens, it must do still more injury than that in the fall.—Very severe weather in the middle of winter seldom injures the vine. It seems then possible that a more northern climate may accidentally not offer these two injurious frosts when they may occur in more southern latitudes, and this was the case last winter. This was preceded by a cool and very wet summer; the vines were, therefore, tender and sappy, hence the injury they suffered by the early and the late frosts.

N. HERBEMONT.

AGRICULTURE.

AGRICULTURE, HORTICULTURE, &c.

MR. SMITH: Westmoreland, Pa., Sept. 29th, 1832.

May I take the liberty, whilst the opportunity offers, of suggesting, in a frank and friendly spirit, a few inconsiderable improvements, that I think may be made in your very valuable paper. Would it not be better to devote a larger portion of its columns to agriculture, and less to horticulture, than has been your practice for some time past?

Horticulture is a useful and ornamental art, but is surely infinitely less important than that first of all sciences—for in this age of improvement agriculture may justly be called a science—by which the various wants of man are supplied, and his very existence as a civilized being sustained. Horticulture, too, is very generally pursued as a matter of taste and pleasure, and not unfrequently of pride. It has, moreover, on its side, the active zeal and industry of all the ladies of our country, and under such patronage cannot fail to prosper. Agriculture, on the other hand, derives no aid from the fostering care of woman, and has to contend with the cold neglect and apathy of man.

The importance of *manuring*, though often insisted upon in your paper, ought I think, to be pressed still more frequently upon the attention of your readers. Until farmers come to consider *manuring* as absolutely indispensable, and as the first and most important work to be done on the farm, no extensive and permanent improvement in the agriculture of the country, is to be expected. You need not fear to tire by repetition upon this subject. It is inexhaustible. And farmers are like school-boys, requiring the same lesson to be frequently repeated, in order to understand—or at least to practice it. Moreover, what may be perfectly familiar to some, may be entirely new, and very interesting to others. I would recommend, therefore, that a standing column of your paper be appropriated to the subject of *manures*, with some such caption as the following: "Let the farmer ever hold in remembrance that *manure* is the life and soul of husbandry; and he that knows how to prepare it, and afterwards how to apply it, cannot fail of being a successful farmer in any situation."

The above extract is from the "New Edinburgh Encyclopedia," which contains one of the best and most comprehensive treatises upon agriculture, that it has been my good fortune to meet with. Is it possible that this very valuable work has escaped the notice of both you and your predecessor? And yet among the numberless extracts from British publications to be found in the Farmer, there is not one from this admirable essay. Its happy arrangement, too, affords peculiar facilities for making extracts. There are passages upon almost every subject, sufficient to fill a column or two in the Farmer, that might be extracted without breaking the continuity of the text. Soils—the selection of farms—tillage—summer fallows—implements of husbandry—ploughs—harrow—rollers, &c.; *manures*—dung—lime—marl—kelp or *algæ marime*, &c. &c. may all be found treated of, in a succinct yet comprehensive manner, and in a style admirably calculated for your journal. Permit me to recommend occasional extracts from this work, particularly upon the subject of *manures*. As the Encyclopedia is a costly work, and not to be found in a great many private libraries, it is not improbable, that some enterprising bookseller of your city, might find it to his interest to republish the article on agriculture—it would make a neat octavo volume. Occasional extracts from the admirable essay of Mr. Ruffin on calcareous manures, would at this time be peculiarly appropriate, to fill a part of the new column which I have indicated. That work being at once popular and scientific, cannot fail to interest every class of readers; and whilst it reflects great honor upon its author, it is calculated, if properly appreci-

ated, to confer lasting benefit upon his country.—Whilst speaking of Mr. Ruffin's book, I take occasion to say, that he has considerably overrated the expense of *marling*, in consequence of the practice adopted by him, of using horses instead of oxen for his carts.—He estimates, as a part of the expense, twenty barrels of corn annually, for each horse employed in carting. Now this entire expense may be saved by the use of oxen. I have employed oxen on my farm on the Potomac, every working day for nearly two years, in carting *help*, Indian banks, and other articles for manure, and I am confident they have not consumed a bushel of corn, each, during that time. I keep a considerable number of them, and by occasionally shifting them, they have never flagged under the severest pressure. Being easily reared, their original cost is inconsiderable; they are nearly as valuable when worn out with service as when young; will carry much heavier loads than horses, and unless the distance be very great, nearly as many in a day; and possess, moreover, this great advantage, that a mere child may drive them; so that with one able hand to tilt your carts, and boys too small for other service, you may run as many carts as you please.

I am so far, highly gratified with the success of my manuring system, which I have determined to pursue with the utmost perseverance. My neighbors, too, I am happy to find, are gradually falling into it. If you can, by repeatedly calling the attention of your readers to this subject, convince them that manuring must be pursued as a system, and that a constant and persevering devotion to it, is the only means of insuring success in their vocation, you will have accomplished nearly all, for which your valuable paper was established. For it is idle to talk about tillage, ploughs, the grasses, &c. until the land is sufficiently fertilized by *manure* of some kind or other, to produce a good crop. After this is effected, the progress of improvement is easy and rapid. In the accomplishment of this laudable purpose, it is to be hoped that you will be aided by practical farmers throughout the country, who by furnishing you with the results of their experiments, and evidence of the success of their efforts in the noble enterprise of improving the condition of their country, will afford to others the most persuasive arguments to follow their example. When I am more at leisure than at present, I will endeavor to furnish you with some satisfactory results of extensive manuring with *help*, Indian banks, &c.

If there be any thing in the foregoing suggestions, worthy of being communicated to the public, you are at liberty to use them, reserving my name, however, which can give to them no additional weight. With best wishes for the success of your journal, and of the cause which it advocates, I am, very respectfully, yours, &c.

[We are greatly obliged to our correspondent for the above hints, and shall avail of them as far as possible. In the meantime we would observe, that we shall be glad to receive assistance from him in carrying the proposed improvement into effect; for, indeed, it is to the want of practical matter from such as him, that the fault of which he complains is to be attributed.]

[Ed. Am. Farmer.]

CHEAT, DARNEL, &c.

Sept. 16, 1832.

MR. SMITH: I have not been an uninterested reader of the warmly debated question of the degeneracy of the wheat plant, from circumstances unfavourable to its growth, into a weed, called cheat, or darnel; and observing in the American Farmer, an "*ex parte fire*" occasionally continued in the "nega-

* Once more, (and we hope it will be the last occasion we shall have for it,) the editor of the American Farmer repels the imputation contained in the sentence—"and observing in the American Farmer an *ex parte fire*," &c. We deny the charge thus made, and shall expect that it be not again repeated. We have

tion," and supposing that positive testimony may weigh with negative argument, at least, measurably. I hold it just and fair to offer you, for publication, a few certificates of facts, from characters of good standing in society, for intelligence and truth: and who have allowed their names to be used, that personal reference may be had, if necessary.

By REUBEN TALL, Esq. Sheriff of Dorchester Co. Md.

I certify that a year or two ago, in May, I was walking in the wheat field of a neighbor, when we agreed to test the alleged fact, that wheat degenerates into "cheat," by injuries done to it at a certain period. We cut down a small square of the wheat in the middle of the field, and marked it by stakes. I saw it at harvest, and it was nearly all "cheat," and the field immediately around, and throughout, had very little cheat in it.

By JOHN MUIR, Esq. Commissioner of the Tax, Dorchester county, Md.

In May, a few years ago, I had a field of wheat too forward, and luxuriant, as I believed, to make, without stubble falling. I ventured to cut a small part of it, to be informed for a similar occasion another year, of the propriety of the measure; and I had the misfortune to see the whole space of cut wheat contain, at harvest, very little else than "cheat." My seed wheat was clear of "cheat," and no other part of my wheat field contained any cheat. Eight or ten farmers examined with me, and bear witness to the fact, that the cheat sprang from the wheat roots.

By LEWIS ROSS, Esq. Merchant, near Cambridge, Dorchester county.

In attending to the carting of some very clean wheat, to the Choptank river, for market; on the way some was spilt on the road, which, though a private road, was pretty hard. The next season I saw it, and it was nearly all "cheat," and I am quite sure, that no wheat was ever before seeded near the place, as it was remote from any cleared land or field.

The following is represented by Col. Manning; an extensive farmer in Dorchester county, and an attentive observer:—

In the seeding of my wheat, which I have always been very particular in having clear of darnel, I have often remarked, that when it was spilt on the turning rows or other hard ground, which was not ploughed, the product was almost wholly "darnel," and the adjoining wheat was clean, or nearly so: and the other portions of the turning rows, and other unbroken grounds, where wheat had not been spilt or sown, were free from it.

George Meredith and Benjamin Read, farmers of Dorchester county, certify that last year, in their presence, the seedsman spilt some seed wheat in two instances on an unbroken turning row, and that this season, there was a thick growth of cheat at each place and but very little wheat: and that they had not discovered, on any other part of the turning row, any cheat; and the field wheat was remarkably clean.

George Robinson attests all the facts in the last certificate, except the spilling, which he did not witness, not being present.

Joseph E. Muse certifies, that last fall he planted 30 grains of wheat in his garden, to ascertain (it being apparently defective, from the great floods of rain, to which it had been exposed, at harvest) whether it would vegetate. It did vegetate, and in the spring, he sheared off, pretty closely, several of these plants, and marked them, by small sticks in the ground, to

published every thing that has been offered, on both sides, without allowing our own opinion, as to the origin of cheat, to exercise the least influence in deciding upon the propriety of publishing the articles. Indeed, to avoid such imputations, we have often published articles that contained mere repetitions of well known facts, and were hence of no value in the controversy. This charge of party favoritism is unmerited by us, and we shall hereafter save ourselves the trouble of refuting it, by a summary process.—Ed. Am. Farmer.

observe its off set. A little before harvest, his attention was drawn to the experiment. By some unfortunate casualty, the sticks were displaced, and the conclusiveness expected, was necessarily impaired; yet there were, within the half of the row on which he had promiscuously made the experiment, several instances of the growth of cheat. Whereas, on the other half of the row, which he had not injured, not one instance of this weed was to be seen. He has never before seen any cheat in his garden.

In addition, "see numerous evidences in the American Farmer," conclusive of the mysterious fact. Vide "Veritas," Georgia Courier, ibid. vol. vii. p. 182, where good wheat was sown with sheep, in February, and almost entirely degenerated into "cheat." Vide ibid. a case in Virginia, when *picked* wheat, planted in a garden became "cheat."

In the language of Col. Emory, upon this subject, in the American Farmer, not long since, in reference to his friend Muse, by whom I know he is held in high estimation, "it has long been a matter of surprise to me, that intelligent farmers should *not* believe" the well attested fact of the degeneracy of wheat into the vile weed; and that they should withhold their belief, because the fact stands in opposition to their preconceived notions.

The Colonel says, "it is against the *order of nature*." Sir, the works of "nature" are mysterious, and these mysteries are gradually developed, and resolved, by new facts, which, though at first perplexing, throw, ultimately, new lights upon the science of her order, with which no man can presume to be perfectly acquainted. It is undeniable, that errors have accompanied the progressive researches in all the branches of science; and it is equally so, that when once systematically adopted they have been difficult of eradication, under the best human evidences; because, perhaps, man is averse to a conviction of his own fully and imperfection.

I have, sir, been constrained to offer this solitary paper, from what might, without much impropriety, be termed the presumptuous dogmas assumed in the negation of this question, and the numerous witty taunts and sarcasms, exultingly disgorged on the opposite opinion. One of these fervid displays seems to have tickled the fancy so exultingly, that it has been generally resorted to as a "point d'appui" for the distressed party, &c. That the fact of degeneracy, &c. contended for, is as absurd as that of turning a horse into a bear, and so forth.

Others, more respectfully and prudently, settle the whole affair by a "coup de main." They say, "sow wheat in clean ground, and you will reap wheat," &c. This is a general truth; but it is alleged upon numerous and respectable authority, that, by circumstances unfavorable to its growth, this plant may be, and has been, occasionally, so altered in both its aspect and properties, as not to be recognised; and on good authority, it is asserted, also, that analogous instances are to be found in support of the possibility of such alteration. And the advocates of this opinion are willing, and without the aid of detraction, disparagement, or recrimination, to rest the point at issue with the motto—"Tempus omnia revelat."

Very respectfully, "FAIR PLAY."

(From the New York Farmer.)

CHESS OR CHEAT.

Albany, August, 1832.

As a philosopher, I fully subscribe to the learned opinion, that wheat does not turn into chess; but as a practical farmer, I entertain a different opinion. I have repeatedly sown clean seed wheat, on ground which could not contain dormant chess, and have sometimes gathered a clean crop, but more frequently one greatly adulterated with chess. If chess grew only from its seed, it would be equally distributed, which has never to my knowledge been the case. It abounds in the borders of the field, around stumps,

and in moist places, where the ground has become most compact, and where the seed was most likely to have been but partially covered. A communication of Mr. Ransdille, in a late Genesee Farmer, has strengthened the opinions resulting from my practice. He found it in abundance on a new burnt fallow, where none had been sown, principally about the borders and stumps, where the seed wheat had remained uncovered. A neighbor sowed, in 1830, twenty bushels of clean seed on a stiff clay soil, and gathered about as much chess as wheat, to wit, 84 bushels.—Wheat has naturally its seminal and its coronal roots; the first springing from the seed directly, and the other from the crown of the plumule, at the surface of the ground; where the seed is superficially covered, or the ground hard or wet, the latter may not be produced, or the former may be destroyed. My observations would lead me to suppose, that in either of these events, the organs of the plant would be imperfect, and that chess would be the result. I have long meditated a course of experiments to solve this question, nor have I yet abandoned the project. B.

[We are much surprised to find the well known signature "B." of Albany, appended to opinions such as the above. How, we would ask the respectable writer, can he as a *philosopher* subscribe to opinions, which, as a *farmer*, he rejects? Are the true principles of agriculture inconsistent with philosophy? Is philosophy inconsistent with the principles of agriculture? But the writer is a botanist, and a practical horticulturist—may we be permitted to ask him what is his opinion on this subject as a botanist and horticulturist?

As to the statement of Mr. Ransdille, which has strengthened "B's" opinion, we would ask whence comes the *fire weed*, which always starts up when new land is cleared, wherever the logs and brush have been burned? Have the native shrubbery and plants been transmuted by the action of fire into fire weeds? Whence, let us ask, come all of our ten thousand pestiferous weeds, in all slovenly cultivated fields? "B." will not pretend that one in a hundred of them were ever seen on the land in its wilderness state.

But we are not more surprised at the opinion of "B." "as a practical farmer," than we are at the process by which he supposes the change of wheat to chess is effected. It amounts to nothing more nor less than saying, that the destruction of either the tap roots or lateral roots of plants, would change the character of the fruit! Cut off the tap root of the peach and the tree will bear almonds; cut off the lateral roots of the apple and the tree will bear pears! But, we suppose as a *botanist* he does not believe this, though as a *practical farmer* he does! Verily we are making rapid advances back again to the darker ages.

[Ed. Am. Farmer.

(From the Virginia Times.)

A NEW AGRICULTURAL PAPER,

PROPOSED TO THE FARMERS OF LOWER VIRGINIA.

The publication of the *American Farmer* of Baltimore, has served greatly to extend the knowledge, and aid the improvement of Agriculture. A periodical of this kind, designed for general circulation, of necessity must be composed of articles of which much the greater part will be uninteresting to each individual reader. Yet if a subscriber finds in only one among one hundred pieces, some useful information, its value must be small indeed, if it does not repay his expense for a year's support of the paper. This opinion is founded on the experience of about twelve years during which I have been a subscriber to the *American Farmer*. But because so small a proportion of its whole bulk is suitable to any one person, its patronage has never been equal to its merit. Similar remarks may perhaps be applicable to each of the several other agricultural publications now issued in the

United States—but I have not seen enough of any one of them to know its plan, or to judge of its merit. It is most probable, however, that there is not one of these papers that does not deserve the patronage of every reading farmer in the same agricultural region.

But though farmers are to blame for not offering more aid to such publications, still it must be confessed that the objection above mentioned must necessarily and greatly limit their circulation and usefulness. For example, the *American Farmer* aims to give information to agriculturists of every grade, and in every situation throughout our country. This wide scope certainly makes the work more acceptable to those few persons who wish to extend their researches so far—but it serves to render the paper more forbidding to the many, who wish to see nothing that is not in some degree applicable to their own peculiar circumstances. The cultivators of cotton and tobacco not only do not value, but hardly tolerate long articles on botany, or processes of northern husbandry—and those interested in the latter subjects, feel contempt for what might be valuable to the former class of farmers. Hence arises not only an unwillingness to subscribe for and read such a publication, but a still greater reluctance to write communications which might reasonably be expected to be overlooked, or contemned, by ninety-nine readers, even if they should be noticed or valued by the hundredth. These considerations effectually smother thousands of agricultural facts and opinions of great value.

To reconcile these differences in interest and taste, and to enable all to derive the greatest possible benefit, it is desirable that a paper should be published specially for each agricultural region, through which generally the same topics would be interesting, and the same information might be applicable. The tide water region of Virginia, with portions of Maryland and North Carolina, presents an extensive sphere for action and usefulness of this kind, and no where would an agricultural paper, judiciously conducted, render more service, or receive better support. Such a publication would (indeed, from policy *ought* to) take a stand below the rank, both agricultural and literary, of other journals designed for general use and circulation. The most important object with the editor should be, not that every article should be valuable for its form or its matter, but to draw together every fact and every opinion of even the least value; and the less ceremony or trouble used to ask for or furnish such information, so much the better for the object in view. By considering the paper as a medium of communication among ourselves—plain practical cultivators—all interested alike, and all needing instruction—few would object to furnish any information that they might be able to add to the general contribution. No one would be discouraged and kept silent by the fear that his subject or remarks would be deemed worthless by his readers—which consideration I know has heretofore had a strong and general operation, and keeps hidden and useless a great mass of valuable facts, that might at once be thus pre-ented for our mutual and general benefit.

But would the adoption of this plan withdraw patronage from existing publications? Certainly not. So far from interfering with any number of such papers judiciously located in different regions, would aid each other, as well as the general interests of agriculture; and all of them would double the value of other publications intended for general circulation, by the great supply of matter thus furnished for selection. Many persons who now never see the *American Farmer*, would readily take a journal more applicable to their wants, and thus gradually be drawn to extend their reading and patronage to agricultural publications of a more general character.

These suggestions are submitted for the consideration of all who may feel an interest in the establishment of a publication of this kind. The plan offers a good speculation for an enterprising and intelligent printer, who would undertake the financial and me-

chancal departments, and secure the services of a suitable agricultural editor and contributors. If only one or two influential farmers in each county would exert themselves for the purpose, subscribers enough might be obtained, and many contributors might be drawn out, who could essentially aid the work, but who have heretofore given to the public nothing of the information they possess. Farmers, more than any other men of equal intelligence, are unwilling to write any thing for publication. The plan I have proposed would go far to remove their objections.— But by resorting to another auxiliary, any information that was desired might be obtained from even the most reserved. I allude to a plan that was formerly recommended by our estimable fellow citizen, James M. Garnett, of Essex, for collecting agricultural facts by means of *tours*, designed specially for that purpose. Excellent as was his object, and forcibly as he urged it, his plan could not be carried through alone, nor by the labors of any one person. But, if connected with the publication of a journal, and the journeys in search of facts were made by many persons, each performing a limited part of a general and concerted plan, it seems to me that the great difficulties would be removed, and the most valuable ends might be reached. In Young's *Farmer's Calendar*, a work intended to point out the operations suitable for any month in the year, one of the directions given to the farmer at some season of leisure, is "to take his horse, and go to see what his neighbors are engaged about." If this advice was frequently followed, whether among our neighbors, or at a distance from home, we would seldom fail to gather information enough to pay for the trouble of the journey. Far more valuable would be the results, if such tours of examination were made systematically, and the reports of all combined, for the benefit of all. Such surveys would not only draw forth every valuable fact and process now known to any of us, but would bring to light, valuable and extensive resources of our country that are scarcely thought of. The existence and value of vast quantities of mineral manures, of different kinds, now almost unknown to their possessors—the practicability of draining by connected efforts, our extensive swamps, which now only serve to poison the air—the necessity and advantages of many public improvements, important to agriculture and to the commonwealth—are only a few of the many items of information that might be expected from these surveys.

The whole scheme that I have proposed would require for its complete execution, agents, who would bring together and combine zeal, energy, and intelligence: but the beneficial results to be expected promise ample compensation to the undertakers for their labors, as well as to the public for its patronage.

CORN PLANTER.

(From the New York Farmer.)

ROTATION OF CROPS.

That crops deteriorate when continued in the same field successive years, is a fact well known to the observing farmer; and yet it is never sufficiently regarded in practice. The Hollanders do not permit flax to grow in the same field oftener than once in 10 or 12 years, upon the principle that it requires this time to restore to the soil the specific food required for the flax, and which had been exhausted by the preceding crop. Good husbandry requires, that not only two crops of the same species, but of similar character, say wheat, rye, oats and barley, should not succeed each other, as these in a measure exhaust the soil of like properties. Judge Peters laid it down as a fundamental rule, that two crops of grain should never be grown in succession in the same field. Our farm crops, as regards rotation, may be divided into three classes, viz. grains, grasses and roots, and these again subdivided; and I would let no two of any one class follow. If manure is applied in an unfermented state to

the roots and Indian corn, which are all hoed crops, weeds will be destroyed, the manure incorporated with the soil, and its advantages to the hoed crops be a clear saving.

But the object of penning this article is to impress upon *gardeners* the necessity of alternating, to ensure good crops. It often happens that particular portions of the garden are assigned to the same vegetable for successive years; and as this portion of ground generally receives an annual dressing of manure, the importance of alternating is not so apparent. Without due reflection, I adopted this too common practice, and had my onion quarter, beet quarter, melon quarter, &c. which have been planted with those vegetables almost exclusively for eight or ten years. Notwithstanding I manured highly, I was astonished that my crops every year grew worse, till from this very inferior quality, I was led to reflect upon the cause, and the consequence was, that I became convinced, that the principle of alternation, which I knew was beneficial in farm operations, should be applied also to the garden. I planted my onions, beets, carrots, &c. on new ground, although the former, I had understood, should always be continued on the same plot. The result of the change is, that these vegetables have nearly quadrupled in product.

Grisenthwaite maintains that the same crop may be taken successively from one field; provided we know the specific food which such crop requires, and supply it in sufficient quantity annually. He says the specific food of wheat is sulphate of lime, and animal matters that afford nitrogen; that of barley, common nitre (saltpetre,) that of sainfoin, clover, &c. gypsum, &c. But until we become so learned in chemistry as to know the specific food which each requires, it will be discreet to pursue the course which nature suggests, that of alternation. B.

(From the Genesee Farmer.)

AGRICULTURAL PRIZE.

MR. GOODSPELL: Bloomfield, Sept. 17, 1832.

As the arguments in favor of the transmutation of wheat into chess appear to be nearly exhausted, and the matter remaining as undetermined as when the theory was first started, it is of some consequence to the agricultural community, that it should be known how chess is produced, whether from its own seed or from wheat. If from its own seed, then they might guard against its increase by entirely cleansing their seed wheat of it, and destroying such plants as spring up before the seed has ripened; but if it is produced from wheat, then it is desirable to know the cause of this change, or by what course of cultivation it can be accomplished. It appears to be the opinion of the advocates of this theory, that there are several ways of propagating chess from wheat, either one of which, if well understood, might lead to the discovery of others;—therefore, as an encouragement to men of ingenuity in such matters, to investigate it more closely, I offer to pay to any person who shall discover the process of cultivating wheat in such a manner as to make it change to chess, the sum of fifty dollars, on his producing proof positive of the fact.

H. CHAPIN.

NOTE.—Mr. Chapin has been induced to make the above offer from a belief, that even the circulation of such an unsupported tale does much evil to the farming interest of our country—for so far as it gains credence, so far the necessity of close attention to the preparation of our seed wheat appears useless. Facts in such cases are certainly desirable.

HOLLYHOCKS.

It has been discovered that the hollyhock, (*Althaea rosea*) is an excellent substitute for flax. Several individuals have embarked in the manufacture of it, and at present, it holds out every prospect of fully answering their highest expectations.—*Hor. Reg.*

HORTICULTURE.

THE VINE.

[The following is the answer of the editor of the Genesee Farmer, to our queries as to the kinds of foreign grapes that bear the winters of the western part of New York.]

The following are among the varieties of European grapes, which have been cultivated in the village of Rochester and its vicinity, for several years past; and, although many have practised covering them in the fall, others have allowed them to remain uncovered during the winter, and have even declared that they thought they succeeded better than those which were covered: white sweet water, white or golden chasselas, white frontignac, and munier. All these withstood the winters of 1830 and 1831 without injury. Although the past winter was more severe, and injured vines more than any for many years, yet we examined a munier vine a few days since, which remained on an arched trellis during the winter without any material injury, and is now loaded with a fine crop of grapes.—The vine was only three years old, and we think has at least one hundred and fifty clusters upon it. We have examined some sweet water grapes that were not covered, that produce a few clusters; but most of them that were left standing were killed nearly to the ground. We examined some in the spring, which were merely taken from the trellis and laid upon the ground without covering, which were in as fine condition as those which had been covered. Most of our native grapes endure our winters perfectly well.

The editor is undoubtedly aware that the winters in the Genesee country, although much longer than they are in Maryland, are not so changeable. By examining our meteorological table, he will find that for two months during the past mid-winter, the thermometer was rarely above the freezing point. During the first of autumn, the atmosphere on the south side of Lake Ontario becomes quite humid, and as winter approaches, is almost continually filled with frost or snow, which prevents the rays of the sun from having that influence at mid day, that it does as far south as Baltimore, where the atmosphere is comparatively clear, and very few days pass but what trees are thawed, at least upon the south side, however severe the evenings may have been which preceded it. In the Genesee country, there is not as much freezing weather, when the ground is bare, as at Baltimore, as the transition from autumn to winter weather is more sudden. After the ground has once become frozen in the fore part of winter, the frost rarely leaves it until it is covered with its "fleece mantle," after which, the ground beneath the snow becomes mostly thawed, and often remains so during much of the winter. From the changes of temperature which take place during the month of March, we think that tender plants suffer more in this latitude, than they do from the severity of the weather during the months of January and February.

(From the Genesee Farmer.)

THE SILK CULTURE.

Tuscarora, Liv. Co., Sept. 13, 1832.

Sir,—Having noticed considerable in your paper respecting the management of the mulberry tree, and the manufacturing of the silk, I have ventured to offer a few of my ideas on the subject. Persons unacquainted with the business would suppose, (by reading some of the articles in print,) that the process was very difficult; but those that are acquainted with the business, consider it very simple and easy to be attained. For a proof of the same, I send you a skein of silk, which I had manufactured by one unexperienced in the business. I raised about one hundred worms this season; my trees being very young, they did not yield food for but a few worms. Our climate and soil is

very natural for the rearing of the mulberry tree. It is a much hardier tree than the peach or quince.—My peach and quince, standing side by side to my mulberry trees, were injured twice as much by the severity of the past winter as my mulberry trees are, although the former are two or three years the oldest. I would recommend to the enterprising farmers and mechanics of the Genesee country, who have one acre of land to spare, to devote it to a mulberry orchard, and in a few years they will receive great profit from it. I would recommend them to be set on rich land, that the growth of the tree may be more rapid, and the leaves much larger. I have about three hundred very thrifty trees of the second year's growth.

E. B.

The specimen of silk sent by our correspondent E. B., we have exhibited to several mechanics who are acquainted with the article, who have pronounced it an excellent specimen of American silk. The thread is very even and strong; and is twisted more than the Italian silk. As the first effort of a person unacquainted with the manufacture of it, it is certainly a much finer article than could have been expected.

(From Flint's History of the Mississippi Valley.)

SPLENDID FLOWER.

Among the flowering aquatic plants, there is one, that for magnificence and beauty stands unrivalled and alone. We have seen it on the middle and southern waters, but of the greatest size and splendor on the bayous and lakes of the Arkansas. It has different popular names. The upper Indians call it *panocco*. It is distinguished by botanists by the name *nymphaa nelumbo*. It rises from a root resembling the large stump of a cabbage, and from depths in the water from two or three to ten feet. It has an elliptical, smooth and verdant leaf, some of the largest being of the size of a parol. These muddy bayous and stagnant waters are often so covered with the leaves, that the sandpiper walks abroad on the surface of them, without dipping her feet in the water. The flowers are enlarged copies of the *nymphaa odorata*, or New England pond lily. They have a cup of the same elegant conformation, and all the brilliant white and yellow of that flower. They want the ambrosial fragrance of the pond lily, and resemble in this respect, as they do in their size, the flowers of the laurel magnolia. On the whole, they are the largest and most beautiful flowers that we have seen. They have their home in dead takes, in the centre of cypress swamps. Mosquitoes swarm above. Obscene fowls and carrion vultures wheel their flights over them. Alligators swim among their roots; and moccasins snakes bask on their leaves. In such lonely and repulsive situations, under such circumstances and for such spectators, is arrayed the most gaudy and brilliant display of flowers in the creation. In the capsule are imbedded from four to six acorn-shaped seeds, which the Indians roast and eat, when green; or they are dried and eaten as nuts, or are pulverised into meal, and form a kind of bread.

(From the Farmer and Mechanic.)

ISABELLA GRAPE.

Mr. Edward Dodson of this city, (Cinn.) possesses a vine of the Isabella grape; that was noticed in the Western Tiller of Sept. 4th, 1829, as having a length of vine of 1,714 feet, and producing 13,712 bunches of grapes, being an average of 8 bunches to each foot of vine, the bunches averaging 30 grapes each. This spring Mr. Dodson pruned this vine down to 2,000 feet, it having grown to a much greater length. Its product this season being equal to the average of 1829, gives 16,000 bunches. He has another vine, a cutting, planted four years since, that has grown in length, and produces grapes in proportion to its age. The grapes on both are at least as fine as are produced by vines trained to stakes and close pruned, the

method generally recommended to produce fine grapes. These two vines furnish a magnificent demonstration that over pruning is not the proper mode of grape culture in the west. Mr. Dodson states, a strong circumstance in confirmation of the correctness of this conclusion—his brother has been in the habit of cultivating the same grape trained to stakes, they have hitherto been rather unproductive, and frequently mildewed.

RURAL ECONOMY.

IMPROVEMENT OF SHEEP.

Mr. Smith: *Lucky Hit Farm, Aug. 25, 1832.*

Dear Sir,—Yours of the 17th inst. has been very lately received. The ram you wish to procure for Col. —, can be delivered in Alexandria in the course of September. His price will be equal to that charged Col. Freeman a year or two since, \$50, with the incidental expenses of \$5.

My uniform price for a ram is \$25, after the first fleece is removed, when I consider him fairly in a saleable state. Much may be inferred then, as to the future turn out of the animal. Much more,—when he shall have yielded his second fleece—then \$40 will be required. When the third is shorn, \$50, at which period a ram will have exhibited his excellencies or his defects, when no breeder would think of selling animals with material faults, since it would be too late to apologise for them by the real or imaginary supposition, they will outgrow it, or fill up in some particular point, &c. &c. It will then be a matter of no little importance to a purchasing breeder who can make a proper distinction between a very good animal and a very superior one, to obtain such as will be as free from defects as possible, although he pay a small additional price. I have said somewhere in the Farmer, that it is impossible for any one to pronounce with certainty on the general qualities of an animal, merely from his youthful exhibition. I am confirmed by further experience in the truth of this assertion, particularly in relation to sheep. But if they have been uniformly disposed to keep in good order on moderate keep, and continue to sustain their promised reputation by an exhibition of promiscuity in the material points, and do not degenerate in their wool, they may well be trusted at or about three years old. I believe I may chiefly attribute my success in sheep breeding, to the circumstance of turning out all my ram lambs, marking with my eye half a dozen, more or less, of the most superior at the first shearing when the best opportunity is afforded of examining and comparing their wool—then undergoing almost every day an examination and comparison, until a second shearing tests more fully their value in regard to wool, and affords a further and more critical examination of the frame, carriage, &c. &c. It sometimes happens in the course of the third year, that some one point meets with a decline (how, or why, is more a matter of speculation than certainty, I believe, however, some of the learned may investigate it with philosophical precision, and decide on it with an air of absolute truth,) and on the contrary, that where there has been a defect, time has so remodelled it, as to bring it into symmetry with the rest. I breed sometimes two or three years from the same ram, or as long as he is decidedly superior to any other, and his progeny do him increasing credit, but this is not often the case. To increase chances of improvement by crosses, I occasionally introduce some half-bred from my neighbors' flocks, gotten by rams loaned for the especial purpose of selecting a few to get a cross or two from—then turning them away, and breeding in and in for a while, according to circumstances.

I have thought it proper to say thus much for the convenience and benefit of purchasers and breeders and it may be well, whenever application is made, that the views of the breeder be signified, not only

in regard to a preponderance in favor of mutton or wool, but any hints which may be advantageously applied in respect to form as a matter of taste will not be neglected—for instance, there may be two animals of the same real value, but differing in their appearance, the one having a longer body, the other making up in breadth for the deficiency in length—but here an advantage may be derived added to taste; if the flock to be improved have short bodies, use the ram to give them more length—if long, it follows of consequence that bulk will be the most appropriate cross. But I must stop, and you will perceive, sir, how difficult it is for me to deal in uncalculated only, whenever this subject is touched from abroad, long, and frequent reflections on its extensive importance, and the indulgence of a vivid and happy imagination on its practical benefits, and the enchanting scenery of beautifully white* flocks spread over the deep green fields, I trust will be accepted as an apology for my detaining you so long on the simple question, will you furnish me with a first rate ram? and also for the request to give this note a corner in the Farmer.

I am, very respectfully, yours, &c. &c.

R. K. MEADE.

(From the Mass. Agricul. Repository and Journal.)

BEE-MOTH.

THE BEST METHOD OF DESTROYING THE BEE-MOTH, OR OF PREVENTING ITS RAVAGES AMONG BEES.

BY JAMES THACHER.

Plymouth, Oct. 30, 1831.

The whole tribe of flies and moths propagate their species by eggs, which the females deposit in situations and substances in which offspring caterpillar may find its appropriate food, the moment it is disclosed. The female moth is endowed by the all-wise Author of its existence, with a most wonderful sagacity and skill, in anticipating the wants of the young grubs, when they escape from the eggs and have no mother to direct or provide for them. The numerous species of moths and butterflies seldom live more than a few days after depositing their eggs for a future progeny. The period at which the eggs are hatched after deposition, depends much on the temperature of the atmosphere; by exposure to the cold of an ice-house in summer, the hatching may be retarded, as it may be hastened by a heated atmosphere in winter or spring. In general, the eggs of moths remain locked up during winter, in the secure spot which the mother insect had selected, and are hatched into grubs or worms by the genial heat of spring.

The silk worm moth, when unrestrained in its natural habits, deposits its eggs on the leaves of trees, and carefully glues them to the leaves, that they may not be shaken off by the wind or washed away by rains; and the larvæ, as soon as disclosed, finds its nutriment in the leaf by which it is sustained. The moth that produces the caterpillar (*Phalena neustria*), and that which produces the canker worm (*Phalena verua pecti*), attach their eggs to the branches of fruit trees, that the ensuing vernal heat may bring the young brood into existence, where they find their food in the buds, and leaves just expanding. The moth from which comes the worm called the borer, and the insect from which proceeds the peach tree worm, deposit their eggs on the bark of trees, that the larvæ may penetrate into its substance for support. The mischievous curculio stings the young fruit and deposits its eggs, where the young maggot will find its nutriment, and at the same time its vehicle to convey it to the earth for a more permanent residence. The diminutive moth whose progeny preys upon woolen cloth, selects that article as a nidus for her eggs. To these instances numerous others might be added.

The true bee-moth, according to Dr. T. M. Harris, the *Phalena tinea cecrenea* of Linnaeus, is a native

* As white as the fineness and closeness of the fleece will possibly permit.

of Europe, but has been introduced and naturalized in our country. This insect makes its appearance in April, or May, according to the warmth of the season, and continues its depredations among bees till October. It appears in the form of a small miller or nocturnal butterfly, the same that we see fluttering about our lights in a summer's evening. It is smaller than a bee, of a grayish color, paler towards the head, glossy brown or purplish near the outer margin of the wings. They have four wings, but seldom soar high in the air; they are frequently seen attached to some substance, apparently motionless, but on the approach of danger they instantly leap off with great rapidity.

These pernicious insects discover a peculiar disposition to molest bees, and propagate their species in beehives. They lie concealed in the grass during the day, and effect their mischievous purpose in the night, when, by the aid of a light, they may be seen in great numbers, hovering about the apiary, to which they are allured by the sweet odor from the hives. The female moth makes every effort to deposit her eggs within the hive, but failing to find admittance, she lays them about the lower edges and crevices, as near the entrance as she can; and it sometimes happens, probably, that they are carried into the hive by the legs of the bees. The eggs are, according to the course of nature, hatched into caterpillars or worms, having sixteen feet and a reddish head; these creatures soon wind their way into the hive; and not unfrequently they have been known, with their strong jaws, to cut a channel of their own size through the substance of an inch board, to obtain admittance.—These worms, when arrived at maturity, construct an oblong oval pod or cocoon, in which they envelope themselves. In this situation they continue to enlarge and extend their covering, leaving an opening for the head; and while in their armor, thus formed, they are perfectly secure from any annoyance from the bees. They feed on the wax and comb, devouring and gnawing down the cells which contain the eggs and the young bees, until they are wholly destroyed. At length the caterpillars are changed into a chrysalis state, their bodies are contracted within their cocoon, they cease to feed, and in due time are transformed into a winged insect, the true bee moth. Here the insects continue to increase in number, till the whole order and economy of the domicile is interrupted; and the bees, being overpowered, either die, or in despair quit their hive to the enemy, the first or second year of their attack.

The moths disclosed from the cocoons, seek an exit from the hive, when they couple; and the females, having deposited their eggs in a suitable nidus, soon perish, leaving in the hive in autumn a numerous progeny to be transformed into their perfect state in the ensuing spring. The moths, thus transformed, pursue the same train of actions to propagate the species, which had been pursued by the parent insects of the preceding year; and it is not improbable, that two or more generations are reared in succession, the same season. These destructive insects are more prevalent in some local situations than in others; in some places the stock of bees is entirely annihilated, and all attempts to cultivate them are abandoned.

The female moth is remarkably fertile, laying 400 or 500 eggs in a season. The precise time when the female deposits her eggs, and the time required for their hatching, has hitherto eluded my research; but I have known moths to appear early in April, and at one time have seen a worm thrust out of a hive by the bees in the month of March. The process, both of hatching and transformation, is promoted by the heat within the hive. There is always in the hive with the moths and grubs a quantity of web, resembling that of the spider, the use of which, as I conceive, is to entangle the eggs to prevent them from being spread abroad and lost, and to serve as a sort of cradle for the young grubs. About the middle of May, 1828, I perceived on the floor board of a hive, a mass of web in which were numerous grubs, from the size

of a needle's point to that of an half inch in length. When this web is observed in or about a hive, it may be certainly known that the hive is infested with insects. I inclosed a number of full-grown caterpillars in a box for experiment. They immediately spun their cocoons, in which they enveloped themselves, and in this chrysalis state they remained till July and August, when they made an aperture with their head, through which they escaped, and expanding their wings, launched into the air. Thus the disgusting caterpillar, which so lately crept on sixteen feet, now is seen to fly with the gracefulness and ease peculiar to the butterfly, one of the most elegant and active of the winged insects. Here we may recognize the Deity in his wonderful works!

In October, 1830, I took from a beehive which I purchased, about twenty cocoons containing chrysalis, put them into a box glazed on one side, and kept them in moderate temperature through the winter. In the months of July and August they were transformed into winged moths, a part of which were double the size of others, probably designative of the different sexes; but I was surprised to observe one among them a beautiful snow-white miller. I put a quantity of honeycomb in the box, with the hope of procuring a nursery, that I might be able to discover their habits and mode of propagation, but they survived but a few days.

Methods by which the bee-moth may be destroyed.

The extermination of this destructive species of insects is absolutely impracticable, by any means that art can devise; but their number may be considerably diminished in any local situation, and their ravages among apiaries may be entirely prevented. Bottles, with a little honey or syrup at the bottom, placed near the hives, will entrap multitudes. If open shallow vessels, containing a mixture of sweetened water, to a pint of which a gill of vinegar be added, are placed within their range, they will be enticed to sip the liquor, by which they will become intoxicated and drowned by hundreds. They should be burnt the next morning, lest by the heat of the sun and air they become resuscitated. If lights were placed near the hives, a still greater number would be allured to the traps, where they may be destroyed.

When these insects have got possession of a hive, they cannot by any means in our power be expelled; the only remedy consists in the removal of the bees into another hive. It would be preposterous to suppose that any article could be applied to the insect, while in the cocoon in the interior of the hive, that would effect its destruction. Common salt has been recommended, but I have enclosed the worms in a box, containing marine salt, and they have covered themselves with their web and remained there six months, when they were transformed into the miller. I have put them in a solution of alkaline salts, and even potash, and they have escaped with impunity.

Knowing, therefore, the inability of all our means to effect the destruction of the bee-moth, it only remains to describe the most effectual expedient to prevent its ravages among our apiaries.

A proper understanding of the instinctive habits of the female moth for the propagation of her species, will indicate the most successful mode of procedure. It has been already observed, that the female selects an appropriate situation as a nidus for her eggs; she discovers a partiality for the floor of the beehive, anticipating the sweets of its contents for her dainty offspring. Secluded from the interior of the hive, she deposits her eggs about its edges, and in crevices as near its entrance as possible, trusting to the instinctive fear of her progeny to seek their way into the hive. From all my observations, I have not been able to discover that moths enter beehives by the common entrance. The bees have constantly stationed at their avenue a powerful and vigilant guard, and on the approach of a moth, a mutual alarm and commotion is observable, and the assailant is soon obliged to retreat. In locations, however, where moths are

very numerous, they may out-general their opposers, and obtain an entrance. From the foregoing considerations it must appear obvious, that the only effectual method to secure the hives from the ravages of the great enemy to bees, consists in a close house to seclude them from all access. This unquestionably affords the only defence, and combines all the requisite advantages.

From three years experience, I can affirm that this plan has answered my full expectations, and I can rely upon it as a perfect security. I have no reason to suppose that my apiary is in the least infested with the insects. The form and dimensions of the house which I have found convenient, is in length proportioned to the number of hives which it is to contain; the width is about eighteen inches, and the height about two and a half feet, for a single tier of hives, with a roof sloping in front. The front part should be entirely closed, having apertures at proper distances to correspond with the mouths of the several hives to be placed within. The outlet from the hive and from the house, should be a little sloping downwards, that the bees may with greater facility remove obnoxious substances, and be better enabled to defend themselves against their enemies. The whole wall on the back part should consist of doors furnished with hinges and fastenings. The house is to be placed on posts about two and a half feet high, set into the ground and secured from being turned over by the wind. The doors may be shut or left open in the day, as circumstances may require, both winter and summer; and if thought necessary, a grating may be placed before the avenue at night. Instead of the house just described, the hives might be placed in an upper apartment in an out-house; and the height from the ground would afford additional security against the moth. As a further precaution, it may be recommended to whitewash the front of the house, and the floor board, which should also be changed frequently.

(From the Journal of the Franklin Institute.)

CASTOR OIL FROM CASTOR BEANS.

An improvement in the process of making warm pressed Castor Oil from Castor Beans, invented or discovered by TIMOTHY PHARO, of Tuckerton, New Jersey.

SPECIFICATION.—A kiln built of bricks, about five by six feet square, and four feet six inches high, is to be erected, and to be covered with tin or sheet iron, supported by small iron bars across the top. A wooden frame, from four to six inches deep, is placed on the edges of the top of the kiln, to confine the beans on the tin floor, while warming. A large sized iron stove is to be inclosed in the kiln, with the stove door on a line with one end of the kiln, for the purpose of keeping up the fire, to raise the proper heat. At the opposite end of the kiln, a small iron door is hung, for the purpose of opening and shutting occasionally, to graduate the heat.

When preparing to press the oil from the beans, the beans are to be placed upon the tin or sheet iron floor above described, where, by means of the heat raised by the fire kept up in the stove, the beans are warmed to any degree the manufacturer deems proper, and are thence removed into the iron churn to be pressed with an iron screw, propelled by horse, steam, or water power.

The above described process of procuring the oil from the beans, is new and to be preferred; because, 1st. The beans are more expeditiously warmed, and saves the expense of the labor of one hand.

2d. All danger of scorching them is avoided, and thereby the oil is saved from any disagreeable taste, and procured in the utmost purity.

3d. The beans can be properly warmed and dried for pressing, even when in a damp state, which cannot be done by a cylinder.

TIMOTHY PHARO.

(From the Village Record.)

FINE CATTLE.

West-Chester is known to be one of the best cattle markets in the commonwealth. We suppose not less than 1500 oxen and steers, were at the yards of our neighbors within the last three weeks, and most of them disposed of satisfactorily. Among the number, were 186 from Madison county, N. Y., driven by Mr. Alpheus Morse; 56 pair of which were working oxen; and we think a more just proportioned and improved drove, have not visited any market for many years.—They were principally if not entirely sold out, at the yard of William Reed, at the Green Tree; and at prices which will probably induce their proprietor to visit our market in future seasons. One pair five years old, were sold for \$130—and ten pairs at upwards of \$100 per yoke. When it is known that very fine cattle will command a superior price, it should, and will undoubtedly offer an inducement to those who raise stock, to select the best breeds.

MISCELLANEOUS.

The gardeners and growers of fruit are a highly interesting and worthy class of the population attached to our large cities and towns, and the business they are engaged in affords a comfortable subsistence to a large number of persons—in ordinary times; but in these extraordinary times of the cholera their business may be regarded as almost destroyed, and all the labor and patience and care which they have expended to supply the market with choice plants and fruits are nearly wasted. They deserve great commiseration, and especially such of them as are dependent on the product of their gardens and orchards to obtain the means of livelihood, and meet their various pecuniary engagements. We would bespeak, on behalf of this industrious and valuable class of persons, much forbearance and kindness—if needing either. The sweat of their honest brows has been wasted—and their most careful nursings have chiefly produced articles which prudent persons reject.

Thus it has been in Europe. A late London paper observes some of the most opulent fruit sellers who had supplied the London market, had lost £100 a week, on account of the cholera interdiction in eating. [*Niles' Register.*]

FOREST TREES.

Middlesex, July 15th, 1832.

Sir,—I have lately read with much pleasure, Washington Irving's article on Forest Trees, in the first volume of his Bracebridge Hall, and would recommend its perusal to our farmers generally. With modifications, I think it is peculiarly adapted to our own country. Most of our farms contain gullies and other spots, inaccessible to the plough; these, if transplanted with a few of the yellow locust, would in a few years afford an invaluable supply of the best fencing timber. This tree may likewise be set in every other length of crooked fence around the farm, and will in a few years furnish a plentiful supply of this invaluable timber, besides it is one of our best ornamental trees, and would add greatly to the beauty of our rural scenery. It is of rapid growth, and easily propagated and spread, and I think should be more generally attended to. Yours, R. M. W.

MILK POWDER.—Fresh milk slowly evaporated over a fire will produce a dry powder. This is to be put in a bottle and closely corked. When wished for use, a suitable quantity is dissolved in water. It will, it is said, have the taste and all the properties of milk.

This spring Mr. Letton, of this city, (Cincinnati) set a fig cutting in a pot, which has produced eight figs. When put in the pot it was about two inches above ground, it is now fifteen.—*Fur. and Mechan.*

METEOROLOGICAL JOURNAL,
For 9th mo. (September,) 1832, kept at Clermont Academy, near Philadelphia, by S. S. Gaiscom.

Day of the month.	Therm. at sunrise.	Clouds at sunrise.	Wind at sunrise.	Observations, a.m.	Max. of Therm.	Clouds, p.m.	Wind, p.m.	Observations, p.m. (9, p.m.)
1 57	CMS.		NE 1		72	0	NE 1	
2 56	0		NNE 2		71	C	NE 1	60 N.E. 2
3 58	CMS.		W	r very little	71	CMS.	SE 2	64 cms: r: in night
4 62	CMS.		SE 2	r.	75	CMS.	SW 1	r.—fog and 1,
5 62	MC.		NW 4		68	MS.	NW 4	57 0. NW 1
6 52	MS.		NW 2	66 ms; NW 2	69	MS.	NW 2	55 c; W 1
7 55	MCS.		SW 1		77	MS.	SW 1	
8 55	C, CS,		W 2		76	C, CS;	W 3	
9 60	C;		NE 2		73	C, CS;	W 3	
10 52	MS.		NE 2		76	MS.	SE 4	61
11 59	MCS.		SSW 4	68 ms. r. SW 5	73	MCS.	SSW 5	r.—1, t, r; 69° SSW 4.
12 60	MS;		NW 5	70 ms; NW 6	68	MS.	NW 5	55 0. NW 1.
13 49	MS.		NW 4	frost near	63	MS.	NW 3	48 NW 0.
14 42	C,		NW 1	f.—68 c:	70	C,	SW 2	55
15 57	C, CS,		SW 1		73	C;	SW 2	61
16 60	C,		NE 1	79 ms, NE 2	83	MS,	W 1	72 aimb. l; t, NW 1, r.
17 66	MS,		NW 3	81 ms; NW 5	80	MS,	NW 3	67 ms, NW 1
18 62	Fog		0	76 ms, W	79	MS,	W 1	
19 60	0.		W 1	81 c, ms, W 1	82	C, CS:	W 1	63 cs. W 0.
20 65	CS:		SSW 1		81	CS:	SSW 1	69 cs: E, aurora in NNE.
21 66	CS.		NE 4	r, 75 ms. NE 4	80	MS;	NW 3	71 cms; W 1, r, in night
22 60	CMS:		NW 3	r, 69 cs: W 1, r.	73	CS.	W 1	59 0. SW 4
23 54	0.		NW 4		65	MS,	W 3	50 0. NW 1
24 47	CS.		SE 1	67 cs. SE 4	66	CS.	SSW 1	58 ms. SE 3, r, in night
25 58	MS,		NW 6	67 ms; NW 5	65	MS;	NW 5	52 0. NW 1.
26 46	0.		W		66	C,	SW 3	52 c, W 1
27 52	CS.		W		73	CMS, MS,	SW 3	60 cs. NW 1
28 53	C, MS;		E 2	72 c, ms, SE 2	73	C, MS;	SE 3	65 ms: SE 2
29 63	MCS.		NE 4	70 cms. NE 4	71	MCS.	NE 4	61 0. 0.
30 58	CMS.		SE 3	r, t,	69	MS.	NW 4	r;—60 ms: NW 4

SUMMARY.

Mean at sunrise, 56.86.

“ “ P. M. 72.8.

“ for the month, 64.83.

Maximum heat 83° on 16th.

Minimum “ 42° on 14th.

Range “ 41°.

Coldest days 56° on 13th, 14th, and 26th.

Warmest day 73° on 17th.

Rain on eight days.

Electrical phenomena on four days.

One aurora on 20th.

Wind E. of meridian on nine days and a half.

Wind W. of meridian on twenty days and a half.

Fair weather twenty-two days.

Cloudy “ eight days.

Thermometer below or at 55° on eleven days.

Thermometer at or above 76 on nine days.

Decrease in temperature from last month 9.02.

Colder than the same month last year 1.67.

Frost a few miles north of us on four mornings,

though none was seen here.

MEMORANDA.

5th. The morning very cool—a snow storm mentioned in Maine, north of Portland.

9th. In the evening the reflection at sunset overpread the whole sky upon CS. quite to the eastern horizon. Some remarkably large and fine peaches in market selling at the rate of \$6 per bushel. Watermelons very large and fine—sweet potatoes excellent and very abundant; wild grapes in profusion, in many places the vines are loaded.

19th. The afternoon quite sultry; much lightning in continued flashes at a distance in the north; very little rain.

20th. The warm weather has resuscitated a few

fire flies; a faint aurora in the N. N. E. behind the C S: at 9 P. M.

23d. Glow worms numerous and the stars very bright. The Exhibition of the Horticultural Society was worthy of the cause, and cannot fail to excite additional interest in this most pleasing and rational pursuit. The display of rare exotics was fine; some splendid dahlias; but the fruits and esculent vegetables were especially worthy of praise. Among these were several new ones in perfection.

29th. The evening very clear and fine. Jupiter cast a very distinct shadow. Many of our forest trees begin to tell us of the approach of fall by their change of hue.

30th. The wind in all directions in the course of the day, with showers in the afternoon from N. W.

The crop of potatoes in this neighborhood proves very good both in quality and quantity. Our Mercers are very fine. Those planted in the last of June are quite equal in size to those planted earlier, though they do not produce so many in the same space.—Some pale rose colored from Ireland have produced very well, though we do not think them superior to the Mercers for the table.

STRAWBERRY PLANTS.

The subscribers are now prepared to deliver to order, Strawberry Plants of the most approved kinds, which will be packed so as to warrant their safe arrival at any part of the United States. The months of August and September being the most favorable season for transplanting, it will be well for those who wish to purchase, to give their orders early, and by care in planting, with an occasional watering, fine plants may be produced.

SINCLAIR & MOORE,
Aug. 10. Grant street, near Pratt-st. wharf.

GENUINE CUBA TOBACCO SEED.

Just received at the American Farmer Office and Seed Store, a small supply of genuine Cuba TOBACCO SEED, just imported, (in papers, not in bottles.) Price \$1 per ounce. Address I. I. HITCHCOCK.

STRAWBERRY PLANTS.

The following varieties of Strawberry plants are for sale at the experimental farm connected with the American Farmer establishment:—

NEW PINE. This is probably the best of all the varieties for productiveness, flavor and size of fruit, many of which measured the past season four inches in circumference, without the slightest attention to culture or thinning out. Price \$2 per hundred.

EARLY SCARLET, LATE BOURBON PINE, LARGE EARLY SCARLET, price \$1 per hundred.—These three kinds are those from which gardeners generally supply our market.

Roseberg, Downton, Grove End Scarlet, Bath Scarlet, Duke of Kent's Scarlet, Raspberry Handbills, New Black Musk Handbills, Wilmet Superb, Keene's Imperial, Keene's Large Scarlet, fifty cents per dozen.

MELON, METHVEN CASTLE, new and splendid varieties, \$1 per pair.

The best season for transplanting Strawberries is the latter end of August and September. The plants can be put up and sent to any part of the union. Orders should be sent immediately to

I. I. HITCHCOCK,
Office American Farmer.

RHUBARB PLANTS.

We have also for sale RHUBARB PLANTS, for tarts, for a notice of which see number twenty-three of the Farmer. Price, for year old plants, 12½ cents each—for two year old or upwards, 25 cents each.

Also, SEAKALE PLANTS, 25 cents each.

SALE OF DEVON CATTLE.

The Subscriber will offer at Public Auction on Saturday the 13th day of October next, on his Farm adjoining Westminster Frederick, Md. his entire stock of DEVON CATTLE; consisting of "Tecumseh" a full grown Bull 4 years old; Commodore, a Bull Calf 4 months old; 2 Heifers, Sally 2 years old, and Julia Ann 14 months old; and 8 full Devon Cows of different ages; also 2 Cows Devon and Alderney, and 2 Devon and best country Crosses. As the subscriber intends to discontinue the breeding of Cattle, the public may depend upon the sale being positive.

TERMS—Six months' credit will be given, the purchaser giving his note with approved security. Sale to commence at 10 o'clock. DAVID WINCHESTER.

THRASHING MACHINES.

The Subscriber would inform the public that he has obtained the patent right for FOX & BORDMAN'S PATENT THRASHING MACHINE, for all the State of Maryland, with the exception of Washington, Frederick, and Montgomery counties, and also for the lower counties of the State of Virginia that lie contiguous to Maryland. These machines possess several and very important advantages over all other machines, which have been introduced for thrashing. The concave bed to this machine is placed upon springs, which enables it to reede from the cylinder when over fed or, any hard substance gets in, this, with the peculiar form of the spikes and the manner of setting them, renders it impossible to break or injure the machine, and at the same time enables it to perform the work with about one-half the power required by other thrashers. It can be readily set to shell corn with great facility, and also to break the corns sufficiently fine to feed stock; it is likewise very simple, easily managed, and the price reasonable, say from sixty to eighty dollars, according to size, or including the horse power complete, from one hundred and sixty, to two hundred dollars. To those counties referred to in Virginia, he offers the patent right for sale to include a machine with each county right. All communications by mail, post paid, will meet prompt attention.

J. S. EASTMAN,
Pratt, near Hammer street, Baltimore.

WANTED,

At the American Farmer Office and Seed Store, all kinds of GRASS SEED, CLOVER SEED, pure SEED GRAIN, and choice Domestic Animals. Apply to

I. I. HITCHCOCK.

NEW CHINESE MULBERRY TREES,

Morus Multicaulis.

This very superior variety of the Mulberry for feeding Silkworms, may be obtained at the Office of the American Farmer. Price per package of 20 trees, with directions for cultivation, \$7.0. They may also be had in smaller numbers at \$1 each.

They will be ready for delivery on the 1st November next.

LINNEAN BOTANIC GARDEN AND NURSERIES, FLUSHING, NEAR NEW YORK.

WILLIAM PRINCE & SONS in offering their *New Catalogues, with reduced prices*, have to state that their *Fruit Trees* are of large size and vigorous growth, and cannot fail to give perfect satisfaction by their superiority. Ornamental Trees and Shrubs can also be supplied of the largest size, and the collection of Herbaceous Plants, Bulbous Flower Roots, &c. is a concentration of the most beautiful and interesting, and is unrivalled in extent. The assortment of *Roses* comprises above six hundred kinds, one hundred of which are Chinese and other monthly roses, and all at the lowest prices. The most of the Ornamental Shrubs and Roses are so superior in point of size that several may be readily propagated from one plant, as the finest only are selected for orders from the immense stock on hand.

Of the *Chinese Mulberry*, or *Morus Multicaulis*, there are several thousand trees of good size, the price of which is reduced to \$65 per hundred; \$35 for fifty; \$9 per dozen, and \$5 per half dozen.

Of the *Delicia* the assortment comprises three hundred of the most splendid varieties selected from the five largest collections in Europe, and owing to the large increase the prices have been greatly reduced.

Those who desire a considerable number of *Roses*, *Poonies*, *Dahlias*, &c. will be supplied at a very liberal discount.

About eighty thousand Grape Vines are now ready for delivery, comprising all the choicest table and wine grapes.

Of the *Camellia Japonica*, or *Japan Rose*, near one hundred varieties have been extensively increased, and the prices of these and other green-house plants are put so low, that this can no longer form an objection.

The *New Catalogues* will be sent to every applicant, and every invoice of *Trees* has a printed heading and our signature; and purchasers who do not send their orders direct, are particularly enjoined to insist on bills as above, as no other will be guaranteed.

Those who are not conversant with the varieties of Fruits can obtain Prince's Treatise on Fruits, which contains descriptions of near eight hundred varieties, and the Treatise on the Vine, and on Horticulture at the Office of the American Farmer, and of Carey & Hart, Philadelphia, &c. and the readiest course for persons at a distance is to apply to their local bookseller to send them.

Those persons who wish quantities of garden seeds, &c. imported from Europe suitable for retailing, will be furnished with a catalogue containing the low prices at which we will import them, and all communications will be attended to with promptitude and despatch.

N. B. A liberal credit will be given when desired.

Oct. 5. 21

FREDERICK SHORTHORNS.

I will sell from four to six COWS, of my former English stock, now in calf by Powell or Frederick, from six to ten years old, at from 30 to 50 dollars—such cows as have raised me my half bred Durhams, the females of which cannot well be in market for some years to come. Some of these cows have either bull or cow calves by their side, by the aforementioned bulls, and will add to the price of the cows from 25 to 50 dollars. The cows are offered at a price little above what they would be worth if well fattened. They have been kept almost exclusively for raising calves, and a purchaser would be referred to them, male and female, as great proof of their value—in the absence of the males, the price they have sold at. Also, two or three full blood Frederick BULLS, 18 months old, at from 75 to 100 dollars, and one or two HEIFERS.

R. K. MEADE,
White Post, Fredk Co. Va.

SILKWORM EGGS WANTED.

Wanted at the American Farmer Office and Seed Store, No. 16 South Calvert street, a quantity of Silk-worm Eggs, for which a fair price will be paid, by I. I. HITCHCOCK.

TALL MEADOW OAT GRASS SEED.

Just received and for sale at the American Farmer Office and Seed Store a quantity of Tall Meadow Oat Grass seed of this year's growth. Price \$2.50 per bushel. Address, I. IRVINE HITCHCOCK.

DEVON CATTLE, &c. FOR SALE.

For Public Sale, at the Three Ton Tavern, in Pratt Street, on Saturday the 3d day of November, at twelve o'clock, a choice collection of Devon Cattle, also, Horses, Asses, and Rams of the Bakewell and Southdown breeds, viz.

Fifteen Cows of the full blooded Devon, from Mr. Coke's Breeds, of Holkham, in Great Britain.

Four Bulls of the same breed.

Twenty-five Heifers and Calves of the same breed.

The stud horse Hickory, five years old, of the blood of the imported horse Exile, from a mare got by the horse Hickory. This breed of horses unites the qualities of action, strength, and docility more than any other known breed.

Sundry Horses and Colts—and Rams.

A Jack of the breed of the Knight of Malta, and of the Royal Gift, five years old, and a good foal getter—his sire cost \$800.

Two Jennies of the same blood,—five years and three years old.

The terms of sale are, cash for any sum under \$100; and six months' credit for sums above \$100, with satisfactory security. ts Sep. 28.

CONTENTS OF THIS NUMBER.

Editorial; Male Maelura, Letter from Gen. Forman; Planting Fruit Trees; Manual Labor or Farm School, in North Carolina; Mammoth Pumpkin, a new kind; Petre Pear; Catawba Grape—N. Herbmont on Injury to Grapevines by severe frosts—Agriculture, Horticulture, &c. the great Importance of Manuring—Communication on Wheat Degrading to Cheat—A new Agricultural Paper Proposed to the Farmers of Lower Virginia—The Importance of a Proper Rotation of Crops—Premium, how Wheat is changed into Cheat—Hollyhocks a substitute for Flax—The Varieties of Foreign Grapes Cultivated in the Western part of New York—Culture of Silk—Splendid Flower—Large Isabella Grape—R. K. Meade on the Improvement of Sheep—The best Method of Destroying the Bee-moth, or of Preventing its Ravages among Bees, by James Thacher—Improvements in the Process of Making Castor Oil from Castor Beans—Fine Cattle—Effects of the Cholera on the Profits of the Gardener—Forest Trees—Milk Powder—Fig Tree—Samuel S. Griscom's Meteorological Journal for September—Advertisements.

GENERAL**Agricultural and Horticultural Establishment****COMPRISING,**

A Seed and Implement Store, a General Agricultural Agency, and the Office of the AMERICAN FARMER, at No. 16 South Calvert street, Baltimore: in connexion with a Stock and Experimental Farm, Garden and Nurseries in the vicinity.

For an extra number of the Farmer, containing a prospectus of the "Establishment," and a Catalogue of Seeds, &c. kept for sale, shall be sent GRATIS to any person who shall by mail or otherwise furnish his address for that purpose.

AGENTS FOR THE FARMER.—All postmasters are requested to act as agents for the Farmer, and to require a strict compliance by subscribers with the terms, especially the third item. They are authorized to retain one dollar for each new subscriber, and ten per cent. on all other collections. The list of special agents is published in the Farmer every third week. (Terms next week.)

DIRECTION OF LETTERS.—Address all BUSINESS letters concerning the Farmer, the store, or the agency, to the proprietor, "I. Irvine Hitchcock, Baltimore, Md."

Printed by J. D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, OCTOBER 19, 1832.

AMERICAN WINE.—We would respectfully call the attention of wine makers to the communication of "Pomonekey," in this number of the Farmer, and particularly that of Mr. Herbemont. We are fully aware of the difficulty Mr. H. will have to encounter in complying with Pomonekey's request, but we entreat him to make an exertion to add this to the long list of benefits he has already conferred upon his adopted country. We join Pomonekey heartily in requesting a full detailed relation of the process, *ab obo*—from the vine cutting, to the wine cup sparkling with *Palmyna*; and let us have the essays for the American Farmer.

LARGE EGG PLANT.—We have been presented by the proprietor of Orange Farm with an egg plant, measuring two feet one inch in circumference, and two feet two inches lengthwise, and weighing 5 lb. 14 oz. If any body can show us a larger one we should be glad to see it.

CONVERTIBILITY OF WHEAT INTO CHEAT.—Our readers will bear with us, we hope, while we indulge in a few more remarks upon this subject. This discussion has at last assumed a serious aspect, and it can no longer be termed a "ridiculous controversy," as it has been by very respectable gentlemen ever very recently. When we, about a year ago, first invited the discussion, we had no conception of the amount of talent and respectability enlisted on the side of our opponents, though we were well persuaded of a very considerable force. We do not intend it to be inferred from this remark, that a perfect knowledge that all the world were our opponents, would have deterred us from the discussion of a subject on which our best judgment plainly pronounced the world in error. We now recur to the subject in consequence of a recent publication in "The Monthly American Journal of Geology and Natural Science," a work deservedly held in high esteem for its science, and the talent with which it is conducted. The article to which we allude, was written by and bears the signature of G. W. Featherstonhaugh, Esq. the editor, and plainly and explicitly avows that the opinions of the writer "as to the immutability of wheat were long ago shaken," and contains the history of a fact in support of the change of wheat to cheat, which the writer considers "ought to have weight in a controverted matter of very great interest."

Before we enter upon a review of this article we may be permitted to indulge in a few preliminary remarks. The wheat plant, (triticum,) is a distinct and perfectly organised plant. From the earliest ages of which we have any history, to the present time, the plant has assumed precisely the same features.—Every leaf, fibre and flower, on every mature plant, has always been the same. The cheat plant, (bromus,) has always worn, also, its characters of distinct individuality. The leaf of the wheat plant, has always been perfectly smooth; that of the cheat, invariably covered with short hairs. So that the two plants when not two inches high can readily be distinguished. We could easily detail other and very many features of the two plants equally different, such as their heads, glumes, &c. These distinctive features being thus invariably present, plainly indicate a distinctness of individuality; and the invariable sameness of features and organization of each plant, ever since they have been known, as plainly allot them places as distinct individuals in the catalogue of creation. When we see a wheat plant, we know it to be wheat; and when we see cheat we readily recognise it; because each plant has always presented the same appearance—we know them as we know the

individuals of our own household, by their features, and can no more be mistaken in the former than in the latter. We should be no more likely to mistake some other plant for wheat or cheat, than we should some member of a neighbor's family for one of our own.—From these considerations, then, we are authorised to consider the cheat plant, as it exists, a distinct, organised being. Now to the point—has man the power to create a new being? Can he add to the catalogue of created things? Can he at his will and pleasure create and induce with life, a new thing? If he cannot, we are bound to believe that he cannot produce a cheat plant by any process.

There is one view of the case in which we admit the possibility of cheat being the offspring, in part, of wheat. It may be a hybrid or mule, the offspring of wheat and some other similar plant; but in any other view we deny the possibility of its being indebted to wheat, under any circumstances or at any time, for its existence. But we have never seen, or heard of its being attributed to this origin, and presume it has been rejected by those who believe in the transmutation, on account of the incapability of mules generally of propagation; or at least of their progeny retaining for any length of time their mixed character.

If cheat, then, be not a hybrid or mule, it must be an original plant of the nature of all others; or—and here let us crave the serious consideration of the reader; or, it must be a thing of chance; a child of accident; a creature of carelessness; a thing, *induced with the living principle, created by man*, at his pleasure, and altogether independent of those laws which we have generally recognised as governing all creation. Is there any intelligent being prepared to admit this?—And if this be not admitted, then the hypothesis that wheat under any circumstances can be converted into cheat, must necessarily be abandoned. As it is contended, that a man may produce cheat by performing certain operations on the wheat plant; that weather unfavorable to wheat may produce it; that the casual tread, and the bite of animals, may cause wheat to turn to cheat, &c; and as it is acknowledged that cheat is as perfectly organised a plant as any other, and not subject to the laws that govern hybrids and mules, the advocates of the mutability of wheat to cheat, must either abandon the hypothesis, or adopt the alternative suggested at the commencement of this paragraph. We can hardly suppose it necessary to argue the latter point. The skill and genius of man, have failed to produce any organised thing induced with the principle of life. Man has created the automaton, with every feature, limb and member of the animal; he has even made it to utter intelligible sounds, and to perform various actions in imitation of animal life; he has resolved various compositions of matter into their original elements, and recombined these elements. But whenever he has presumptuously attempted to induce a thing of his own creation with the principle of life, his folly has been followed by utter failure. In this respect, imitation in appearance is the farthest bound of man's power—"thus far shalt thou go, but no farther."

All plants, as has been suggested above, have distinct characteristics of individuality; features peculiarly their own, from which they can never deviate. These characteristics are the "ear marks" of the Creator, by which they are distinguished from each other. They have also peculiar natures by which their individuality is secured, in perfect independence of each other, and thus the whole chain of vegetable being preserved from chaotic confusion. Though all plants are divided into families or species, and these into members or varieties, every family has its characters, and every member wears them as a family livery.—Though we improve a vegetable by cultivation, and make its fruit more excellent, or the flower more beautiful, we can never change its character so far as to prevent its being readily recognised. We make plants produce double flowers; we make them assume various fantastical forms; but who would ever be at a

loss for the name of a bush because it bears a double rose, or for that of a pear tree because it was made to assume the form of a vine by training on a wall? Variations of particular parts of plants are common; corn frequently bears grains on the tassel or male flower; we have an ear of corn now before us, surrounded by fourteen small ears, all growing out of and attached to the large end of the same cob; twins are very common with all fruits; and some other minor variations might be referred to; but it may be taken for a truth, and one which never has been and never can be controverted, that, however a vegetable may vary in these minor respects from the general appearance of its family, it never did and never can vary so far as to prevent its ready recognition as a member of that family.

We shall now proceed to an examination of the article of Mr. Featherstonhaugh with particular reference to facts. He says—"Having practised farming upon a tolerably extensive scale, during the most active part of my life, my opinions as to the immutability of wheat were long ago shaken." Opinions are, or ought to be, the judgment of the mind, formed upon the careful examination of all the testimony on both sides of a question. Conclusions formed upon any other basis, are mere prejudices. Persons who have been in the habit of hearing certain propositions and theories advanced and accepted as general truths from their childhood, or from such time of their lives as they were incapable of or indisposed to examine into the truth of the matter, are very liable to adopt such propositions as truths, and by long habit of indulgence they become settled principles; but such are not entitled to the appellation of *opinions*. We do not intend to say, that such has been the foundation of Mr. F.'s opinions; but would ask if they had not some such origin; or rather, whether his former opinions of the immutability of wheat were not first shaken by other circumstances than a careful examination of cases of the supposed mutation, with an eye single to the discovery of truth, and with qualifications necessary to the thorough investigation of the subject?—We infer that the examinations were not thus conducted, by the importance he attaches to the fact he relates, and which he considers ought to have weight in the controversy. He is in possession of a plant of cheat, perfect in all its parts, that has, he says, the skin of a kernel of wheat attached to the root. "As far as the heads went," he says, "it was a perfect specimen of cheat or chess. The plant, having been carefully drawn from the field, had all its roots attached to it, without any visible fracture, and in the most natural manner. Mr. Conway, however, drew my attention to the skin of the kernel of the seed from which this plant had proceeded, and which was attached to the radicle, in a situation quite distinct from the lateral roots. The skin was that of a kernel of wheat, and upon applying a microscope to it, I found that it had been a kernel of wheat and nothing else." Now if there be no mistake as to the facts stated, the controversy is ended; but we must inquire first, how Mr. F. could possibly know, that the plant had actually proceeded from the seed of which this was the skin, as he has not informed us that he dissected the subject so as to ascertain the fact, but only looked at it through a microscope. Might not the root of the cheat plant have penetrated the old shell of the wheat kernel, and thus have formed an apparent connection, as we often see in cases where the fibres of other plants penetrate old acorn shells, and other seed capsules? How could Mr. F. know, secondly, that the shell was certainly that of a kernel of wheat, after it had so long lain in the ground? How could he know *certainly*, from the imperfect examination he was able to give it, (not having detached it from the root,) that it was not the shell of a seed of cheat, or rye, or any other similar plant? That it looked like the shell of a kernel of wheat, we have no doubt; but can he say that the shell of a kernel of cheat, or daniel, or rye, or barley, might not have

assumed the same appearance? These seeds all swell very much, and undergo great changes in their form during the process of germination, and we apprehend that a partial examination of the appearance of a shell of any of them would be considered very imperfect testimony in favor of their identity with any particular kind of seed. We have ourselves often examined those shells, both on the wheat and cheat plants, as well as on rye, barley, &c., but we never saw one that contained marks that enabled us to pronounce certainly that it was the seed of either; and could only judge of what it was by the plant to which it was attached. We therefore do not consider this circumstance entitled to much weight in the controversy. But how are we to reconcile the opinion expressed in a subsequent sentence by Mr. F. with that which we have been discussing? "It appears, however, to me," says he, "that if farmers would carefully remove plants of cheat at the proper season, after the heads are out, but whilst the stalks are yet green, that the controversy on this subject would soon cease." There is nothing more certain than this; but if his opinions be correct, this process would be entirely futile, and without the slightest effect; the cheat would continue to grow, as before, from wheat kernels. It is only upon the admission to its utmost latitude, of the immutability of wheat, and of the origin of cheat from its own seed, that the destruction of the green cheat plant would end the controversy. But that the extermination of the cheat plant may be effected by carefully pulling up the plants in a green state, we have positive proof; and we shall now proceed to the examination of testimony on this point.

A very respectable member of congress from Maine, informed us last winter, that in a part of that state where wheat is more extensively cultivated than in other parts, many years ago chess or cheat was very troublesome to their wheat, and that they got rid of it entirely by cleaning their seed in sieves and shovels made for that purpose. He says that he has not seen nor heard any complaint of it for nearly twenty years.—*See Am. Farmer*, vol. xiii. page 395.

Mr. Craven, a very respectable farmer of Virginia, informs us, that his father and himself have always kept their fields clear of cheat by carefully destroying it before it was ripe, whenever it made its appearance, which it sometimes did through the medium of manure and other agents, brought to the farm.—*Inter. Farmer*, vol. xiv. page 123.

Besides these two cases we could extend the list to any extent; but do not conceive it necessary. There is no fact better known, than that any farm may be kept perfectly clear of cheat by perseverance in the destruction of the plants before maturity, when they accidentally occur, and by sowing perfectly clean seed. The state of Maine has been entirely freed from it by this process, and we have heard of several farms that have been kept so for many years past. If these facts are true, and they are from persons of the highest respectability, what becomes of the proposition that cheat grows from the seed of wheat? The state of Maine, and these farms, would be continually pestered with cheat, if it grew from wheat seed; but on the contrary, in Maine, the farmers have generally even forgotten the appearance of the cheat plant, as is proved by the fact, that a member of congress from that state, sent us a head of it that grew among some orchard grass in his garden. (the seed of which he obtained at Boston.) inquiring what it was!

With every disposition, therefore, to respect the opinions of respectable and scientific gentlemen, with such facts before us, and such arguments for our support, we must continue to reject the proposition, that cheat is the produce of wheat under any circumstances. We must be permitted to believe in the immutability of wheat, and of every other individual in the whole catalogue of creation, except in the minor cases and features, and the instances of hybrids and males, excepted in the argument above.

AGRICULTURE.

(From the Southern Agriculturist.)

ACCOUNT OF AN AGRICULTURAL EXCURSION IN THE SPRING OF 1832.

BY THE EDITOR.

(Continued from page 219.)

Corn.—In the culture of corn, the plough is comparatively but little used, the hoe being still the chief instrument employed, we are glad, however, to find it getting into more general use than formerly. In preparing for this crop, the manure is, by most of the planters, spread in the alleys between the old beds and listed on. By many, however, it is not manured until the first working, when it is placed around the stalks and covered with the plough or hoe. All of the manures mentioned by us as being used for cotton, are also employed for corn: the cotton-seed is, however, most prized, and in fact applied to every crop with the greatest success. A pint to each hill, is the usual quantity, and an experiment made by Mr. James Gaillard, goes to prove that any additional quantity does not increase the product in proportion—his experiment was from less than a pint to one quart, applied to each hill. He, therefore, thinks it preferable to extend this manure over a greater surface than to apply it in large quantities, to a small space. In one instance, Mr. S. G. Deveau applied it at the rate of 1700 bushels per acre, and the product was at the rate of ninety-six bushels per acre. Used in addition to other manures, it is considered as almost invaluable even when but a small quantity can be applied, increasing the product greatly. But this is not its only recommendation, its application is thought to be peculiarly efficacious in preventing the *firing* of corn. Col. Porcher has also found it effectual in preventing rust in corn, and several spots of ground, which, at one time, could not be made to yield any thing, owing to this cause, has, by the application of cotton-seed in small quantities only, been rendered very productive. Mr. S. G. Deveau, experimented with plaster of Paris as a manure for corn, by applying it at the rate of two and a half bushels per acre, strewing it in the alleys, on the lists, and rolling the grain in it. The product was not measured, but a striking difference was apparent in the growth and product in favor of this manure.

We found swamp-mud comparatively but little used. The late Mr. S. Gaillard instituted the following experiment, to test its efficacy as a manure for this crop.

Experiment upon Corn, Peas and Cotton of the comparative merits of mud and manure made of litter.

1825—Two acres alike in quality planted in corn on beds four feet apart, and six feet on the beds with two stocks in each hole. On one acre eight wagon loads of mud was scattered and listed in, on the other acre the same number of loads of stable manure listed in, in like manner. The result was as follows:

Acres manured with mud yielded 11½ bushels corn and 919 lbs. of peas.

Acres manured with stable manure 9½ bushels corn and 896 lbs. of peas.*

* The following experiment proves the efficacy of swamp-mud as a manure for cotton. It was unfortunately overlooked when we were giving an account of the cotton crop.

1828—Half an acre of cotton manured in every alternate row with mud, at the rate of 300 bushels per acre, the intermediate rows not manured. The result was as follows:

18 rows with mud 99 lbs. 18 rows not manured, 38 lbs. in seed.

1829, 18 rows with mud 62 lbs. 18 rows not manured, 43 lbs. in seed.

13 rows with mud 66 lbs. 18 rows stable manured, 48 lbs. in seed.

In 1830 and '31, similar experiments were made with the mud and cowpen manure, equal quantities of each

The most general manure, however, is the compost made in the cowpens and stables, and there are few planters, if any, who have not this at command in sufficient quantities for the corn crop if no other. The quantity applied to each acre varies much, and is necessarily regulated by the quantity each has collected. We do not recollect to have heard of any who applied it in greater quantities than Dr. H. Ravenel, viz. twelve wagon (equal to forty-eight single horse-cart) loads. The modes of applying it also varies. Most generally it is spread (if to be had in sufficient quantities) between the alleys and listed on, and the corn planted on this list. By others small beds are formed, and holes made, into which the manure is first placed and the corn then planted, (this is not much followed as the corn is apt to *fire*, should the manure not be well rotted. Others who have it not in sufficient quantities to spread, place it on the lists where the corn is to be planted, and dig it in, mixing it well with the soil. Mr. Daniel Broughton's plan, perhaps, is better still, although more tedious. It is to open a long hole, place the manure at each end, and plant the corn between these two parcels, into which the roots soon extend, and do not suffer from the contiguity should a drought ensue. By pursuing this course, he has been very successful of late years with this crop: manuring after the crop is up has also many advocates, especially when but a small quantity of manure can be had. Whenever cotton-seed is to be applied, it is almost always after the corn is up, placing it around the stalks and covering it. It soon germinates and comes up, when it is cut down and again covered.

The usual time of planting is about the middle of March, some, however, divide their crop—planting a part about that time, and the balance after all the other crops have been got in: this is done, not only to divide the risk of failure from the seasons, but also for the convenience of minding from the crows. Dr. Ravenel's plan we detailed last year; he never plants any part of his corn crop until the last of April or beginning of May, and he has been more generally successful than those who have planted earlier.

The distance at which this crop is planted, is either four feet square, leaving one stalk, or four by six, leaving two stalks. Major Porcher, in his swamps, made an experiment on three half acres. The rows of all were four feet apart—in one, single stalks were left at one foot, on the second, at two feet, and on the third, at six feet, leaving two stalks; this last produced eight bushels more than the others. Mr. James Gaillard prefers four feet square on a light soil, such as his is, especially should a drought ensue, otherwise four feet by six—leaving two stalks, is thought to be equally productive. Among the experiments made on this subject, is the following, which was furnished by him.

1825—Two acres divided into quarters, yielded as follows:

		PRODUCTION.	
		Corn. Peas.	
1 qr. beds 4 ft.—dis. on bed, 9 ft. 1 stock	3 bas.	131 lbs.	
1 do. 4	1	4	212
1 do. 4	5	1	4 234
1 do. 4	6	1	3½ 254
1 do. 5	2	1	2 140
1 do. 5	3	1	3 139
1 do. 4	5	2	2½ 203
1 do. 4	6	2	2 133

Forty-one lbs. of peas when threshed, measured seventeen quarts.

The culture of this crop consists of from two to four workings. By those who make use of the plough, a furrow is run near to the corn as soon as it is of sufficient height, and this is followed by the hoe. Another ploughing and hoeing, with some, complete the work, except the field be grassy or peas are planted,

with similar results, the exact quantity of cotton produced by each not recollecting; the memorandum having been mislaid.

which is usually done. Those who use the hoe only, give a bed to the corn as soon as it is so high as to require thinning, and the hoeing is continued as often as is necessary. The average product of this crop from unmanured land, is about twelve bushels; from that which has been and is still manured, from eighteen to twenty bushels per acre. The swamp-lands without any manuring, produce average crops of from thirty to thirty-five bushels per acre, and as much as fifty bushels have been made. But there is a curious fact connected with the inland swamp-lands, which is, that they cannot be cropped with corn for several successive years: that is, the product diminishes so rapidly each year, that it is thought extremely injudicious to plant them with the same crop, without permitting them to rest. But if oats be sown, (and the land is very productive of this crop) it answers, every purpose, and the yield of corn the next year is as great as ever. The corn blades are carefully saved for fodder, and on this the planters chiefly rely, for but few, if any, cut the grass out of their fields for hay.

Peas.—When peas are sown among the corn crop, it is usual to drill them on the beds, from stalk to stalk in June, they receive but one hoeing and are then left to take care of themselves. When sown by themselves, beds are formed at the distance of four feet apart, and in July they are sown either in drills along the whole bed, or in chops—the former mode is preferred and a half bushel of seed per acre is used. Mr. Deveau found plaster of Paris an excellent manure for them, and Mr. Joseph Palmer has used swamp mud with considerable success;—the average product when sown by themselves, is from ten to fifteen bushels per acre. The vines are saved by many as fodder for their cattle during winter.

Potatoes.—On the sea-board and islands, the slip potatoes, (potatoes obtained from the vines) are most relied on for a crop, and, comparatively, but very few roots are planted. In these parishes, on the contrary, the planters depend more on their root than their slip crops, although it is found impossible to keep the roots when taken out of the ground. The reasons assigned are, that slips must be planted at a very busy season of the year, and harvested when the hands can be but ill spared from the cotton fields. The product, moreover, of roots, is greater than that of slips. Generally, therefore, as many roots are planted as are estimated to last from the middle of August until January, and slips to last from thence until March or April.

The old plan of cowpening the land is practised by some, but as far as our observations extended, that of manuring from the cowpen, stable, &c. is as much followed, if not more so. We, of course, refer only to those among whom we visited. Cotton seed is also much used, in quantities of from one-half to three-quarters of a bushel per acre. The beds are four feet apart, thirty to thirty-six inches base, and from twelve to sixteen inches high, and brought to a sharp ridge. The potatoes are planted from the 20th of March to the 10th of April, at the distance of from eight to twelve inches on the bed: whole potatoes are preferred on account of giving earlier vines, though no difference in product has been observed. The first working is not given until the beds are grassy, when they are hoed lightly down, and immediately hauled up. By some, a furrow is run with the plough between the beds before this is done. Two workings are usually given, but by some only one, and afterwards the grass is picked out. They are dug for allowance from the 15th to the 20th of August, and are used from the field until destroyed by severe weather. In no attempt yet made have they been successful in preserving them when taken out of the beds. It is the general practice, therefore, on the approach of cold weather, to have a little earth drawn over the tops of the beds, and thus left, they keep until very severe weather sets in, and it is usual to have them in use out of the fields until January.—The average product of unmanured land, is stated at one hundred and fifty bushels per acre. Manured

land has produced from four to seven bushels to the row of one hundred and fifty feet.

Slips are cultivated on the same sized beds, usually following a crop of oats, these latter are by many manured with cotton-seed for the purpose. Three vines are used in planting, and two workings given—the average product is stated at one hundred bushels.—Slips will not keep if left in the field as the roots are; they are, therefore, dug early in November, and placed generally in cellars, but are not well preserved in this way. Having thus briefly given the general course of culture, we will detail that followed by Dr. H. Ravenel.

The land cultivated by Dr. H. Ravenel is what may be termed a sandy loam. In preparing for the crop, he has the manure spread where the beds are to be formed, if on ground previously planted in potatoes. If in cotton, it is spread between the beds and listed on. Four hands are employed per acre to scatter the manure and form the beds. The manure used is principally from the cowpen in the quantities of eight ox cart-loads, (equal to thirty-two single horse cart-loads) per acre. The beds are four feet distant from each other, about three feet base, from twelve to sixteen inches high, and are made altogether with the hoe. The time of planting is about the first week in March, which he prefers, as vines are obtained earlier, and he thinks the product of the early planted greater. Whole potatoes are used for seed in preference to the cut, because they are not so apt to rot, and produce vines earlier. The difference of product between the whole and cut potatoes, is so trifling, if any, as not to have any influence in the decision.—They are planted at a distance of twelve inches from each other on the beds, if whole—a little nearer, (say eight inches) if cut. These distances have been ascertained by actual experiments to be best suited to the crop.* Should the potatoes come up irregularly, Dr. Ravenel supplies the missing places, by sprouts, taken off from those which have sent up a large number, and very often, from off the same bed. They are not hoed until the beds become grassy, when they are hoed down, and after being left for two or three days are hauled up, one other hoeing is all the work bestowed, and is found generally to be enough. The slips are planted, as soon as the vines have grown sufficiently long. It is usual with him to sow oats on the ground intended for slips. These are manured highly with cotton seed, and no manure is applied when the slips are planted. The beds are made about the same size as for roots, three vines are laid lengthwise of the beds and banked; the banks are about ten inches, with intervals of from three to four inches.—Two hoeings are generally given, by which time the vines cover the beds, and they are left undisturbed until they are dug. If the season has been at all favorable, the root potatoes are dug for allowances about the middle of August, and they are used from the field until all are consumed or a frost destroys them. When the winter sets in, they have a little earth drawn over the beds, and thus protected, they continue perfectly sound until there occurs some severe weather, and it is not at all unusual to use root potatoes from the field until sometime in January. As all attempts to preserve them by placing them in cellars or heaps, have proved worse than useless, it has been abandoned, and they are invariably left in the field to abide their fate. The slips are dug early in November, and sometimes in October—the object is to get them in before a frost has affected them.

The product of roots on manured land, is from three to four bushels to the row of one hundred and fifty feet, on that unmanured not more than two bushels. Slips on ground manured by passing the cowpen over it, have yielded three hundred bushels per acre. The average product, however, is not more than one hundred bushels, when planted on the oat-field, although the oats have been manured with cotton-seed. The

slip potatoes are kept in large cellars, but are not well preserved in them.

Major S. Porcher, makes his beds in the following manner, a list is formed, and on it a small bed, it is then gone over a first and second time, at each, adding a small quantity of earth, making four operations. The object is to bury all of the grass-seeds, and Major Porcher thinks that by going over it so often, and at each operation taking merely the surface then presented, they will be effectually buried. Cotton-seed is principally used by him for manuring this crop, at the rate of three-quarters of a bushel per acre. His beds are small, about the size already stated above; he plants from the 20th to the 25th of March. Prefers whole potatoes to cut, as they are less liable to rot, and give earlier vines;—they are planted at one foot distance on the beds. Root potatoes producing with him more than double the quantity that the slips do; he plants enough to last until January, and only a small portion of slips—he never commences hoeing until the vines have commenced running, and gives but one hoeing.

Mr. Joseph Palmer plants about the first of April, manuring at the rate of four hundred and eighty bushels of cowpen manure per acre. He prefers small beds, (that is of the size we have stated above) to those of larger sizes, and has known these to yield more than those made at a distance of five feet apart, and consequently much larger. For planting he uses cut potatoes, as there is a saving of seed and the product about the same—the whole potatoes will, however, afford the earliest vines. In planting, two hands are employed, one covers the potatoes, and pats the earth firmly down, the other follows and draws the earth from the opposite side, over the top of the bed and leaves it without being at all compressed, the effect of which is, that the tops of the beds are never baked into a hard crust, as is always the case when patted with the hoe, and thus left. In planting slips, he makes use of but three vines which are found amply sufficient.

The yam potato is the favorite in middle St. John's, and the Scotch or leather coat in upper St. John's. The "reds," (red skin and white flesh) which is planted in such large quantities on the sea-board, on account of their earliness as well as productiveness, are not planted in these parishes, except in small quantities for the use of children affected with bowel complaints, in which it is said to be found beneficial.—All of the varieties of the potato are cultivated in these parishes in small quantities by some one or other of the planters.

To show that it is not so much a matter of indifference, (as many of our planters suppose) which variety is planted, we state the following facts:—on a piece of ground manured and cultivated alike, Mr. Isaac Porcher obtained from a row of one hundred and fifty feet long, of brimstone potatoes, (red skin and yellow flesh) four and a half bushels, whilst from an adjoining row planted with yams, he obtained but two and a half bushels. Dr. Ravenel planted several rows, dropping the yam and Spanish pumpkin alternately on the same rows. One row of one hundred and fifty feet in length produced two and three-quarters of a bushel of yams, and but two bushels of pumpkin Spanish. Another row yielded two and one-eighth of a bushel of yams, and only one and three-fourths of pumpkin Spanish. The like results would not, perhaps, follow on other soils; in fact, Dr. Ravenel has made on "Poshee," seven bushels of root yam potatoes to the row of one hundred and fifty feet, the very variety which produced comparatively so little in the experiment of Mr. Isaac Porcher. It was not from a single row only that this was made, but from a considerable space of ground. This shows the necessity of planters attending to the adaptation of the several varieties to their soil, and selecting for a crop those which prove most productive, without regarding any preference they may have acquired for particular varieties. (To be continued.)

* We have been promised an account of these experiments by the gentleman who made them.

(From the Lenox (Mass.) Journal and Argus.)

BERKSHIRE AGRICULTURAL SOCIETY.

The Berkshire Agricultural Society, was organized in the year 1810, and is the first institution of the kind that was founded in the United States. Its influence has been no less excellent than extensive. In different sections of the country, societies have been instituted upon similar principles; and though several have had but a brief existence, owing to the want of a proper *esprit du corps*, yet those that have survived the "whips and scorns of time," exert a wide spread and very salutary influence, and are an honor to the country. The Parent Society, as the "Berkshire Agricultural Society" is justly called, has reason to be proud of her vigorous and numerous progeny, and we hope that the blight of age will never rest upon her, but that she will be destined to "flourish in immortal youth."

Ever since its organization, the concerns of the B. A. Society have been ably and judiciously managed. The gentlemen, who have successively filled its offices, were eminently qualified for their stations, and were ardently devoted in promoting the high and noble objects contemplated by its founders. It has encountered but little opposition from the inhabitants of the county; and the visible and tangible good which has resulted from its operations, has effectually and forever silenced the objections of the cavalier, and the sneers of the captious. It is not to be wondered at, therefore, that the society is a favorite institution of the intelligent yeomanry of Berkshire. They feel its beneficial influence, in stimulating them to be perfect in the arts of husbandry—in elevating and ennobling their calling—in inspiring them with just and honorable sentiments—and in contributing to develop the social and best feelings of their nature, by bringing them together, like a band of brothers, on the days of their Annual Exhibition, to receive the reward due to their labor and skill.

It is a noble and soul-cheering spectacle, indeed, to witness the gathering of the rugged tillers of the soil on the days of the Annual Fair. No spirit of evil is allowed to bear sway among them at this period; and political prejudices, like a polluted garment, are cast aside. In the spirit of brethren they meet; and unitedly they offer up to the God of the harvest, the homage of glad and grateful hearts. They are no slaves, no serfs, no subjects, that servilely contribute a portion of their labor to increase the wealth of pampered lords and aristocrats; but they are men, free as the air they breathe—the undisputed sovereigns of their own soil—moving in the dignity of conscious independence—no one daring to infringe upon their rights—and bending to no power but to the Power that upholds the universe. These are the men, and such like them, that "constitute a STATE."

With but few or no exceptions the anniversaries of the Society have been well attended, from all parts of the county, ever since its organization. The annual reports, which have been successively made, of the several committees on animals, on agricultural products, on domestic manufactures, &c. show the progressive and great improvements which have been made in these several branches of husbandry. We have heard intelligent strangers, who have spent a short time in the county, and who have visited various parts of it, pronounce Berkshire to be the "garden of the state." Whether this compliment is well-deserved or not, we shall not pretend to say; but that the farms of Berkshire are infinitely better cultivated, the stock in every respect superior, the articles of domestic manufacture more numerous, and made in a better style, even rivaling in beauty and durability foreign fabrics,—than they were a few years since, are propositions which no one will pretend to deny. This result has been accomplished chiefly by the operations of the "Berkshire Agricultural Society." The physical and moral condition of the county has been greatly improved by the impulse which it has com-

municated; and we predict, that when that day comes on which this Society shall be abrogated, the prosperity of this county will be seriously, if not vitally, affected. Being aware of this fact, every public spirited man in the community is zealously engaged in sustaining it. Long may it continue to flourish, and to be an honor and blessing to those who cherish it, and who have the good fortune to live within its influence.

At the next anniversary of the Society, the exhibition, we understand, will equal, if not surpass, any that has preceded it. The annual address will be delivered by the Hon. Henry Shaw. This gentleman's talents and acquirements, are an ample guaranty that it will be an able one, fraught with sound, practical, and enlarged views.

HORTICULTURE.

(From the Southern Agriculturist.)

AN ADDRESS DELIVERED BEFORE THE HORTICULTURAL SOCIETY OF CHARLESTON, AT THE ANNUAL MEETING, JULY 11TH, 1832.

BY DR. S. H. DICKSON.

(Concluded from page 228.)

Horticulture is entitled to our special attention, on account of the unequalled opportunities which it affords for obtaining a minute acquaintance with some of the most striking, interesting, and important of the operations of the material world. The study of nature is the most delightful and improving of all studies. Physiology, the study of living nature, is carried on with peculiar advantage in connexion with horticulture. The gardener, by the closeness of his intercourse with the plants under his care, and the extreme minuteness of his necessary attention to them, becomes familiar with all their habits, and (if I may venture so to express myself) intimate with them and their modes of life and action. In the investigation of the upper ranks of animated beings, great difficulties are to be encountered, arising from the complex and varied functions to be performed, and the nice and intricate structure or complication of structures necessary for their performance. In the several gradations of being, proceeding downwards in the scale, we find this complexity becoming less and less, until we arrive at the vegetable kingdom. The vital processes of nutrition, motion and reproduction, are here exhibited, in a condition the most simple, and under contingencies least unadapted for observation and detection. He who is desirous "to look through nature up to nature's God," will find in a garden the best commencement of his inquiries. Here, he may seize the lowest link in the chain of animated creation. The lichen, that with its velvet growth, conceals the surface of the rugged rock—the air-plants that realize the fable of the chameleon, and subsist and flourish upon air and atmospheric moisture, cannot fail to attract his notice. A single leaf of the leaf-plat laid upon the ground, or hung by a thread, will throw out numerous stems and full foliage. I have seen a Venezuelan shrub adhering by fibres, which we must call roots (though they are rather tendrils) to the fork of a dry stick, glowing with flowers of luxuriant beauty. The Aerial Epidendrum (*Epidendrum flos aeris*) is often plucked by the Javanese, on account of the elegance of its leaves and flowers and its exquisite odor, to be suspended by a silken cord from the ceilings of their apartments, where it continues to put forth from year to year new leaves and blossoms, and diffuse a new fragrance. Many will thrive in water alone—and others, which require to be bedded in the earth, will bear actual inversion, the branches absorbing the nutriment which the roots were originally made to receive, while the latter, in time, become branches when thus exposed to air and light, and throw out leaf and flower at every extremity. Willoughby affirms this to be true of several species, especially of the cherry and willow tribes.

How apparently simple, yet, how truly inscrutable is this process of nutrition—digestion—appropriation. The same elements, few in number, and of properties singularly unlike those of the secretions which result from their combination in the vessels, juices, flowers, and fruits of vegetables—the same elements, hydrogen, oxygen, nitrogen, carbon, and, perhaps, a metal, or an alkali the oxyd of a metal, are absorbed by the root, or by the leaf, acting as a lung, enter into the constitution of all the parts of the plant, and give rise to all its varied products. The exquisite fragrance of the rose and violet—the aroma of the spice flower—the delightful odor and flavor of the strawberry and the peach—and the energetic medicinal virtues of camphor, and cinchona, are elaborated thus incomprehensibly from the limited materials of soil and atmosphere, presenting no peculiarity in any degree adapted to explain, or account for the wonderful diversity of result.

Plants possess, like animals, the power of motion, both perceptible and imperceptible. Indeed, the very idea of life implies contractility, or the capacity for motion. The germ of the seed is developed gradually, it is true, but not very slowly—the sap is propelled with great steadiness and prodigious force along the sap vessels, circulating, though not exactly as in animals. In a dark place, if a crevice be made, through which a single ray can penetrate, every plant growing near will extend its shoots and tendrils towards the spot where they can obtain the genial influence of light, to which they would almost seem to know they owe all their coloring and beauty. Of obvious vegetable motion, there are numerous examples in the spontaneous agitation of the leaves of the *Heliosarum gyrans*, in the sudden unfolding of the petals of some flowers; in the evening primrose, distinctly audible, as well as visible—in the murderous closure of the coroll of the *Dionaea muscipula* and the *Apocynum androsaemifolium*, upon the insects which have intruded into their inviting recesses, and in the collapse of the now familiar sensitive plant. Such motion is "agreeably seen," says Darwin, the beautiful poet of the loves of the plants, "in the flower of *Parnassia*, in which the males alternately approach and recede from the female, and in that of the *Nigella*, in which the tall females bend down to their dwarf husbands."

In the same paragraph he goes on to mention his surprise at having observed "several females of the plant *Collinomia*, who had bent themselves into contact with the males of other flowers of the same plant, in their vicinity, neglectful of their own." Nay, if we are to believe the testimony of authors, even locomotion is not altogether denied to the vegetable race. "Were a person, on the eve of travelling to the East Indies," says Good, "to plant the roots of an *Orechia* or a *Scabiosa* in a particular spot in his garden, and to search for it in the same spot on his return home, he would be in no small degree disappointed, and if he were to remain abroad long, he must carry his pursuit to half an acre's distance, for thus far would some of their roots, perhaps, have travelled in a few years. The male *Ulineria* sails from shore to shore, over the water, in pursuit of his female, and a multitude of sea plants that through the ocean, and having plenty of food wherever they go, send out no roots to search for it."

In plants; as among animals, life cannot be said to belong to the individual—it is the property of the species; and the greatest care is taken by nature that though individuals perish, the races are preserved. For this, she expands the charming flowers that perfume the air of spring—for this, she ripens the rich fruits of the yellow autumn. No balmy zephyr can breathe without fertilizing the beds which give it "*Sabeen* odor;" downy wings convey the seed in every direction from the parent stock. Birds become gardeners, and scatter the germs of the plants which supply them with food. Seeds are endowed with such amazing tenacity of life as to bid defiance to all con-

tangencies that affect them, with a force less than sufficient for their mechanical or chemical destruction, and remain capable of reproduction after having been laid aside for centuries. It is affirmed further, that some of the bulbous roots found packed up in the coverings of the mummies of Egypt, and thus enclosed for three thousand years, have thrown out shoots and flowers when again exposed to the air and favored by the influences of heat and nutrition.

It is in watching, and imitating, and modifying the results of this mysterious process of reproduction that horticulture has obtained her proudest triumphs. By the marriage of two similar individuals, she produces a third of rare and remarkable beauty—by engrafting upon a well selected stock, she enlarges and improves the future bud. Flowers are made full or doubled by over-stimulating the plant, and keeping it supplied with nutriment of exciting quality. Although by thus converting the stamens into petals, we destroy the ordinary powers of reproduction, yet nature has provided against even this injurious consequence of too high cultivation, by endowing the roots or cuttings with the property of becoming entire plants. Fruits, we improve in size and flavor by similar processes; by stimulating nutriment and by judicious ingrafting—and since the production of the giant strawberry, and some of the exquisite varieties of the pear, nothing in this mode would seem impossible to the diligent and skillful gardener. To him the attempt is not absurd or impossible, as Shakespeare deemed it, "to paint the lily or add new perfume to the violet."

The passion for flowers is diffused throughout our whole race, and unlike every other of our innate propensities, is obviously unmixt with any alloying or debasing object as an impulse or motive. They are the earliest and most cherished playthings of childhood, and our mature age can discover nothing capable of giving more permanent or more innocent pleasure. In a few expressive words the Messiah has communicated his deep sense of the beauty of these charming objects. "Behold the lilies of the field!—They toil not, neither do they spin; yet Solomon, in all his glory, was not arrayed like one of these." Bacon placed before his eyes on the table of his solitary study, a vase filled with these gems of a day, and considered no perfume so sweet as the odor of garden earth freshly dug, and moistened with the juice of the grape. Milton, in his touching enumeration of privations from his blindness, does not omit to lament plaintively

"The sight of vernal bloom and summer's rose."

and shows his estimation of a garden in numerous passages of his divine poems—among others, in the melancholy adieu of Eve, when expelled from Eden.

"Must I leave thee, Paradise?"

—"O flowers

That never will in other climates grow—
My early visitation, and my last
At even; which I bred up with tender hand
From the first opening bud—and gave ye names—
Who owe shall rear ye to the sun; or rank
Your tribes, and water from th' ambrosial fount!
How shall we part!"

"And breathe in their air
Less pure—accustomed to immortal fruits."

Paradise Lost, Book xi.

The cottager trails over his porch or lattice, the egplantine and the clematis—and the pent up citizen and pale artisan must be poor indeed, and narrowly lodged, if they cannot find room on a mantle piece or rode shelf, for a geranium, or jonquil, or some domesticated wild flower. And when we meet in these humble domiciles such simple decorations, how promptly and involuntarily do we draw the most favorable inferences, as to the taste and gentle dispositions of the resident. Our sympathies respond instantly—

"One touch of Nature makes the whole world kin."

Yes! she will have every where her votaries and her worship. Her temples abound; every grove, gar-

den, and forest; "each bourn and busky dell" resounds with the adoration paid her. He, the great Author of Nature, "who gave us all things freely to enjoy," has made us all susceptible in a greater or less degree of these delights; has implanted in every bosom a craving for green fields, and an ardent fondness for rural pleasures, which nothing but long and absorbing habits can ever obliterate or destroy.

I would not, however, defend the excesses to which this passion has been carried, and which, indeed, have occasionally reached an intensity resembling infatuation or delirium. Every one has read of the immensely disproportionate sums which the foggy Hollander, in his enthusiasm, was wont to give for a new and beautiful tulip. Nor can I offer an excuse for his misdirection—the perverted taste, which, overlooking the sweet and modest denizens of our own fields, takes an exclusive interest in exotics, expensive and difficult of procurement, recommended by little else than their rarity, or the distance whence they were brought, and the impediments in the way of reconciling them to the opposite climate, and the new circumstances in which we place them.

There seems a peculiar propriety in this fondness for a garden, as constituting a part of the female character. It has been so in all ages and nations, from the early period when

"Proserpine gath'ring flowers
Herself the fairest, by the gloomy Dis
Was gath'ered!"

down to the introduction of the elegant camelia into the parterres of France, by the scarcely less elegant and graceful Josephine.

Flowers form beyond comparison, the most chaste and appropriate of all the decorations of female beauty, which requires to be adorned, if adorned at all, with so critical and sparing a hand. There is no variety of complexion which may not be perfectly suited by a tasteful choice. Those who work in mosaic, affirm that there are not less than 1600 distinct tints of color in the mineral kingdom; but, who would pretend to enumerate those which shine in our gardens and green-houses, and bedeck with spontaneous luxury our fields and forests.

Flowers afford a new and delicate language to passion. Love has always been fond of expressing itself by association with them, and poetry has no softer or more successful allusions than such as point to these favorite objects of nature. "In all ages," says a late agreeable writer, "they have been made representatives of innocence and purity. We decorate the bride, and strew her path with flowers; we present the undefiled blossoms as a similitude of her beauty and untainted mind, trusting that her destiny through life will be like theirs, grateful and pleasing to all. We scatter them over the shell, the bier, and the earth, when we consign our mortal blossoms to the dust—as emblems of transient joy, fading pleasures, withered hopes; yet rest in true and certain trust that each in due season will be renewed again. All the writers of antiquity make mention of their uses and application in heathen and pagan ceremonies, whether of the temple, the banquet, or the tomb, the religious rites, the pleasures or the sorrows of man; and in concord with the usages of the period, the author of the Book of Wisdom says, 'Let us crown ourselves with rosebuds and flowers before they wither.'"

It is with reason, then, that we hope for more efficient aid from our female friends in the beautiful department of the florist. Our climate and soil are peculiarly propitious. The sky which bends over us glows like that of Italy with the rosy hues of early dawn and the mellow purple of evening twilight. And it is not the sea only, or the soft calm bosom of the sheltered lake, which reflects the accustomed glories of the firmament. Earth also, offers herself a mere mirror of those splendors which are shed upon her from the star of day, and the lesser lights which govern in his absence. It is from these sources that

her offspring gather the bloom and radiance which delight the eye. Like the diamond, they shine with a derived lustre, and are dimmed and paled beneath the cold and cloudy constellations of the north.

Here then let them bud and blossom, in countless variety and endless succession. We are not of those who would coldly ask the definite object of their existence, and the useful purposes effected by or through them, to account for the profuse abundance with which they are scattered over the face of universal nature. We yield ourselves freely to the fascinations of poetry and beauty. It suffices us to know, that all the bright pictures which surround us—the majestic forest; the wide spreading oak with its grey garniture of graceful moss; the tall columnar pine; the soft plain carpeted with mild verdure; the field of waving grain or fragrant clover; the variegated meadow; the "trim garden," these are all adapted in their several modes to excite pleasurable emotions, to give rise to the gentlest and purest sentiments in the minds of those before whom they are thus munificently spread abroad. We regard them with gushing admiration and gratitude, as among the "glorious works" bestowed upon us by the Infinite Parent of Good.

And it suffices us to feel, that while in common with all else that he has made, these things of glowing beauty tell loudly of creative power and intelligence, they speak also the softer language of kindness and love; "because expressly planned by creative benevolence as sources of delight in animated beings; and they may well excite in us towards Him in whom these attributes concenter, the emotions connected in our minds with the endearing appellation of Father."

RURAL ECONOMY.

IMPROVEMENT OF HOGS.

*Lucky Hit Farm, Virginia, }
October 8th, 1832.*

MR. SMITH:

Let your call for information on the subject of the Bedford, or Parkinson Hog, should not be answered in as satisfactory a manner as you could wish, I will take the liberty at present, of touching a point or so concerning them, in a very brief way; reserving for the new year a little of my experience in that department of our agriculture; when, with the blessings of life and health, I will report to the Farmer the keeping and weights of five Parkinson, or Bedford Pigs, just one year old the 1st of next January; (alias the Frederick grass breed) for, truly, they will have lived at least six months out of the twelve on pasture—clover and orchard grass. The liberty taken of giving them a new name, is the result of the pains, expense, and trouble, which has been taken to improve them in the crosses and selections made from time to time, whether for the better or not. The small China, and long-sided English, have been mingled with this breed; and, in truth, the large-sized Parkinson hog may be bred by a judicious mixture of the large English and very short-legged, well formed, small hog, called by any name whatever. Hogs are indeed a kind of stock calculated to do but little honour to the pen of a scribbler, but so universally important in the pen of a farmer, that it is a shame they have been so much neglected. Many are so ignorant as to believe, and declare, that corn alone will make the breed.—Give them corn, a plenty of corn, and I'll insure you a fine breed. While it is conceded that corn, or some other substantial food, is as necessary to the great and final perfection of the hog, as grass and hay is to some other of our domestic stock, it must be contended, that if corn, in the greatest profusion, is lavished on ily-made hogs, it will in no reasonable time, if ever, have the effect of changing their deformities into perfections, unaided by a rational degree of skill in ejecting the bad points, and retaining and improving the better; though it is unhesitatingly admitted, that far less skill is required to bring this animal to perfection

than the sheep, cow, or horse; and for reasons too obvious to ordinary understandings, to make it necessary to dwell on them for a moment.

More than thirty years since, a pair of these hogs (the Parkinson, then called) were introduced on the Lucky Hit Farm, by my father, a present from Mr. William Henry Fitzhugh, formerly of Chatham, near Fredericksburg, a gentleman well known by his extensive hospitality—afterwards, of Ravensworth, in the neighborhood of Alexandria—they were raised at his mill to great perfection—also at the mills of Mr. Hartshorn, and Rickets, and Newton, very near Alexandria—were also to be seen at the wagon-stands on the road, and had been transported in wagons to various parts of the country.—This is well known to me, being frequently on the road and in the neighborhood of Alexandria. Mr. Fitzhugh and General Ridgely were on the turf together some forty or fifty years ago. Whether they then paid much attention to the more humble kinds of stock, I cannot pretend to say; but from what I can well recollect of the former, twenty-five or thirty years since, when the turf had yielded its fascinating pleasures to more sober and rational enjoyments, I know that he took great pleasure in dividing his attention between the improvement of farm-stock generally; and I have but little doubt, from the intimacy of Mr. F. and Gen. R. in former days, that this breed must have been derived from the latter. Well do I remember the contrast between our then breeds and the newly introduced Parkinson. I will anticipate a promised communication only by saying, that with ordinary keep, at eighteen months old, my hogs have averaged about 200 pounds, and are beginning now to break down the prejudices which ought to have been subdued many a year since—to extort acknowledgments that half the food will raise and fatten them, &c. &c. I bid you adieu for the present, with a short extract from our friend, the Rev. J. Kirkpatrick, of Cumberland County, Virginia, as it touches the subject of the Parkinson hogs, and as we try to hear more from his beautiful white stock of pigs:—"I have been doing quite smartly in my sheep business since I wrote. I have sold seven bucks (young ones) and nine ewes. These have more than covered all expenses ever incurred by this article of stock. A number more, I find, are in demand. I have thirteen very fine full blooded pigs, for which I can have \$10 a pair—they are very fine and please me very much. My Shorthorns are all still doing well, but the critical time is just at hand. I have not, however, heard of any fatality in the neighborhood, and I am adopting all possible precautionary measures."

The fatality, alluded to, is what is termed in the lower country, I believe, the Carolina distemper. It is a serious drawback to the agriculture of the south part of Virginia—a most unfortunate argument for the more extensive culture of tobacco. If you will offer a premium of a medal and a Shorthorn bull, for an essay on the subject, I will supply the animal, on the simple condition, that the real value of the essay shall be tested by its effects—for it is of infinite importance that all diseases, distempers, or maladies, whatsoever, should be arrested as soon as possible, come from what quarter they may, or from what species of animal. I am, very respectfully, your friend,
R. K. M.

AMERICAN WINE.

Mr. SMITH: Charles Co. Md. Oct. 13th, 1832.

Under the above head, in your paper of the 5th inst. I read with great pleasure the letter of your very intelligent and respectable correspondent, N. Herborn, Esq., of South Carolina, to whose perseverance and science in the culture of the grapevine in our country, we owe much, and posterity will owe more. If experience and energy can effect the successful culture of the vine, and test its prosperity in our country, it will be done by that patriotic and en-

lightened gentleman. Having commenced the culture of the vine myself upon an extensive scale, under the conviction of its ultimate success in our country, I cannot feel otherwise than gratified at learning, from Mr. Herborn's letter, that he has succeeded in making as good wine this year as can be produced in any country.

The object of this communication is to ask that gentleman through this medium, to lay before the public his *entire process of making wine*, from the gathering of the grapes to the bottling away the wine for use. We want very much all the information that experience and observations upon that subject in this country, can furnish. The only method that has been laid before the public, is the one given by J. Adlum, Esq. of the District of Columbia, in his valuable treatise upon "wine making;" and for which publication, he is entitled to the thanks of the public. The foreign writers upon the subject, cannot be successfully followed in this country, differing in climate, &c. and ought not to be relied upon. We want a treatise of the kind from an intelligent and practical man in our own country, and I know no one who could so essentially serve the "vine growers" of the United States, as Mr. Herborn. His knowledge of the culture in France and his long and untiring experiments in this his adopted country, added to his science and respectability, better qualify him for that object than any other person. Would he not render a lasting service to those who like myself are engaged in the experiment of wine making, if he would submit through your columns, or otherwise, his *entire process of making wine*, in all the minutiae, from the gathering, through the mashing, fermenting, drawing off, &c. &c. to the period when the wine is fit for use? I acknowledge a total ignorance upon this subject, and I am at a loss where to look for information. This year, for the first time, my vines of three years old yielded well, and I have attempted the making of wine, but I fear it will turn out to be nothing but an attempt, for I found none of the rules, laid down in the books upon that subject, worked well with the juice of my grapes; I abandoned them all and launched the fate of my wine this year upon the ocean of whim and inexperience, hoping that at the return of the next vintage I should be enabled to pursue the "process" adopted by some experienced vine cultivators in our own country, and with that view I have addressed you these observations. Should you concur in opinion with me, can you better serve the agricultural interest and its prosperity, than by asking every successful cultivator of the vine in our country, to lay before the public, his *entire process of making wine*? POMONKEY.

TURKISH CURE FOR FOUNDER IN HORSES.

Letter from Commodore Porter, American Charge des Affaires at Constantinople, to the editor of the *Sporting Magazine*—On the curious treatment of Founder in Horses, by Turkish Veterinary Surgeons.

Antient Chelrdon, Kadi Kinny, }
April 21, 1832. }

Dear Sir,—There are few sailors who are "judges of horse flesh," and I make no pretensions to that sort of knowledge. I am going, however, to relate what I have seen: if it is worth knowing, it is well; if not, it is the easiest thing in the world to throw this in the fire.

Some time ago I bought a very good horse at the bazaar, for which I paid nine hundred piastres, or fifty dollars. Some thought he was dear at that price, as you may, for five or six hundred piastres, buy here such a horse as no gentleman need be ashamed to mount; however, I was much pleased with my bargain. On my removal from Buyurdine to this place, the horse was very hard, and on his arrival at Top Thana, a distance of 14 or 15 miles, was permitted to stand in a cold wind and rain two hours, with-

out being rubbed down or walked about; consequently, he became foundered in the right fore leg, so that he could scarcely walk.

I sent for a Turkish farrier, the one who attends the sultan's horses. He immediately pronounced the horse foundered, and said he must be bled in the inside of the diseased leg. He put a nipper on his nose to keep him steady, then took up the left leg, and crossing it over the right, gave it to an attendant; he then struck his lancet into the vein a little above the fetlock joint, and took from it about three and a half pounds of blood, the vein bled very freely.—He now said he had taken enough; he then went to the very opposite side of the leg, and striking his lancet into a vein above the knee joint, a single drop of blood exuded, and both that and the first opened vein instantly ceased bleeding. There may be no novelty in this, but it certainly astonished me to find, that opening two veins in the same limb, would stop both from bleeding: such, however, is the fact, for I witnessed it.

He desired that the horse should rest the next day, that he should then be rode with great violence until he was in a profuse perspiration, the diseased limb then to be rubbed with wet salt, (to which I added a pint of hot brandy) then rubbed dry, and walked about until cool, and covered with blankets; the same process to be repeated next day, which was done, and all lameness from that time disappeared—the horse, the third day after the first rubbing, was perfectly well.

MISCELLANEOUS.

(From Whitlow on the Causes of Inflammation.)

PERNICIOUS EFFECTS OF VITIATED RYE

Rye is liable to be diseased by an insect depositing its animalcula in the grain, which causes it to sprout and produce an excrescence like a cock's spur, of a hard texture. When ground down with the flour, or used in distillation, it proves a mortal poison; and at times has proved a pestilential scourge to Europe: it has been equally fatal in America, and is supposed to have been the chief cause of the plague in London.—In 1811 and 1812, a great number of lives were lost from the spurred rye being used as food, and liquor distilled from the rye. The great mortality was chiefly confined to New York and Vermont. Upwards of twenty thousand victims fell a sacrifice to the ravages produced by that dreadful poison. Meeting after meeting of the faculty took place, to endeavor to discover the cause; and after the most mature deliberation it was discovered by Dr. Hossack and his party, that it was a poisonous miasma floating in the air, confined to certain prescribed limits and affecting certain persons, more particularly those that were in the habit of drinking gin: the best apology for their ignorance of the true cause, the ergot or spurred rye. What made their report the more ridiculous was, that there was at that time a fine, clear, black, hard frost, and the healthiest weather that could be imagined. Many of the members were sceptical and could not believe the report: they thought that owing to the fine weather it was impossible for contagion to exist in the air: others were of the same opinion with the doctors. One of the contagionists wrote and requested me to go to Albany, where the disorder was then raging, and wished me to endeavor to discover the cause of the afflicting calamity. On my journey from New York to Albany, where the legislature of the state was sitting, I stopped at a place called Kinderhook, and being cold, contrary to my usual practice, I drank a glass of gin. I had not drank it many minutes before it affected me as if I had taken something boiling hot into my stomach. Although I immediately took an emetic, which produced the most active effects, the poison had taken so firm a hold of my constitution that my throat and rectum were extremely painful. I had a cold perspiration towards the morning, with a pain in my bones and head,

whereas I was in perfect health before I drank the gin. I accused the tavern-keeper of putting poison in the gin; a gentleman of the town who heard me and had observed that the habitual gin-drinkers in the place had died, seconded me in my charge. The landlord declared he was innocent, and referred us to the distillery. Upon our applying, the distiller was much alarmed at our charge of his putting poison into the gin; and added, it would be his ruin if the report got abroad, in consequence of the great mortality. He took a voluntary oath that he put nothing but the pure grain into his gin, and invited us to see the grain in the still-house loft. We found it on inspection badly cleaned and probably one-tenth of it spurred rye, or rye vitiated by being infested with the clavus or ergot. I was quite astonished when I saw it, particularly as it was so well described by Dr. Darwin as being a pestilential scourge in various parts of Europe, producing what is called by Dr. Mason Good, in his history of medicine, mildew mortification: in America it was vulgarly called the dry rot. On dissection I have observed that the windpipe and rectum were so completely parched by the action of the air stimulating or attracting the effects of the poison to the parts, that when pressed they would give way and appear like black snuff. I lost no time in repairing to Albany. On my arrival, the inhabitants were in mourning, on account of the loss of their relatives and friends, some of whom had risen in health in the morning; had eaten a hearty breakfast and at noon were in eternity! Such were the rapid effects of that inflammation, which was ascribed by the doctors of New York to the air of Albany being charged with the damps of death. The members of the assembly of the state had at the time under their consideration a resolution to enable them to remove the state legislature from Albany; it was expected that the resolution would be carried the same night, to the great and irreparable injury of the inhabitants.—To the friend who was waiting for me at the hotel, I communicated the glad tidings of having discovered the cause of the disorder. He immediately ran to the assembly room and obtained the members' consent to adjourn the question until the following morning. The tavern where I was, was soon crowded by the members and citizens, all anxious to know the cause. I was no sooner communicated with a detail of my own sufferings, than the members searched the book-shops and libraries, and found to their great satisfaction that the ergot was capable of committing the ravages upon mankind that I had represented to them. One of the septuagint of the faculty, on being requested to analyze the article, and report on the subject, took a few of his acquaintances some distance into the country to dine at his father's farm, where an opportunity offered to prove whether the ergot was injurious or not, for a large quantity of it that had been separated from the rye was given to the pigs; and from its fatal effects, (as it caused their death the next day) the father became a convert to the opinion. A number of rats, cats and dogs also fell sacrifices to its effects before the sceptical were convinced.

(From the Virginia Farmer.)

LIGHTNING RODS.

MESSES. EDITORS:

I saw in the last number of your paper an extract from the Genesee Farmer, in which it was requested that some person would give the necessary information for constructing lightning rods upon a building one hundred feet in length and thirty-two feet in breadth.—I have taken it upon myself to do this, and ask the favor of you to allow me the communication of my instructions through your paper. I would, in the first place, recommend that two rods only be used, and that each of them be an inch and a quarter in diameter; for if they be less than this, they will be liable both to break and melt. The extremities of the rods above the building should be nicely graduated,

and pointed with platina or silver. (Platina is the harder metal, and consequently the better.) They should not extend more than six feet above the summit of the building; for, if they do, they will attract the lightning unprofitably, the object of them not being to attract lightning from a distance, but in cases of its coming nearer, or to the house, to conduct it off, and thereby secure it.

It would be advantageous, in fastening these rods to the house, to have the staples or ligament separated from the rods by circular pieces of glass, such as the necks of bottles; for, if, in the passage of the lightning down the rods, it should come into contact with the staples, it might be communicated to the house, and thereby create an explosion; but the glass will prevent this, being a non-conductor of electricity.—They should extend into the ground also to the distance of five or six feet: charcoal, if convenient, should be buried around them, and in dry weather it would be well to pour water about them, as moist earth is best for conducting electricity. The rods may be placed with safety at the gable ends of the building, but it would be better if they be situated nearer together; for instance, at the distance of twenty-five feet from the gable ends: then, to secure the building, it would be necessary for them to attract the lightning from the distance of only twenty-five feet around them; and as they are situated at the distance of fifty feet apart, if circles, whose radii are twenty-five feet, be described around each, they will exactly touch each other at the middle point between them; and, in consequence of this circumstance, the building will be completely secured, even if the rods have an attractive power from no greater distance than twenty-five feet around. If these particulars be attended to, I have no doubt that the building will be as secure from injury by lightning, as if environed by an hundred of rods. D.

THE FUCIA TREE.

Mr. Shepherd, the respectable and well informed conservator of the Botanic Garden at Liverpool, gave the writer the following curious account of the introduction of that elegant little flowering shrub, the "Fucia" into our English green-houses and parlor windows:—Old Mr. Lee, a nurseryman and gardener, near London, well known fifty or sixty years ago, was one day showing his variegated treasures to a friend, who suddenly turned to him and declared, "Well you have not in all your collection a prettier flower than one I saw this morning in Wapping." "No! and pray, what was this *plumex* like?" "Why, the plant was elegant, and the flowers hung in rows like tassels from the pendant branches; their color, the richest crimson, in the centre a fold of deep purple," and so forth. Particular directions being demanded and given, Mr. Lee posted off to the place, where he saw, and at once perceived that the plant was *new* in this part of the world. He saw and admired. Entering the house, "My good woman, this is a nice plant—I should like to buy it." "Ah, sir, I could not sell it for no money, for it was brought me from the West Indies by my husband, who has now left me again, and I must keep it for his sake." But *I must have it.* "No, sir!" "Here," (emptying his pockets) "here is gold, silver, and copper," (his stock was something more than eight guineas) "well a day, but is this a power of money, sure and sure?" "Tis yours, and the plant is mine; and, my good dame, you shall have one of the first young ones I rear, to keep for your husband's sake." "Alack, alack!" "You shall, I say, by ——" A coach was called, in which was safely deposited, our florist and his seemingly dear purchase. His first work was to pull off, and utterly destroy every vestige of blossom and blossom bud; this was effected on the way. Arrived at home, the plant was tended and nourished with his best care; it was divided into cuttings, which were forced in bark beds and hot beds, were redivided and subdivided. Every effort was

used to multiply the plant. By the commencement of the next flowering season, Mr. Lee was the delighted possessor of 300 fucia plants, all giving promise of blossom. The two which opened first were removed into his show house. A lady came. "Why, Mr. Lee, my dear Mr. Lee, where did you get this charming flower?" "Hem! 'tis a new thing, my lady, pretty, is it not?" "Pretty! 'tis lovely! Its price?" "A guinea, thank your ladyship," and one of the two plants stood proudly in her ladyship's boudoir. "My dear Charlotte! where did you get?" &c. &c. "Oh, 'tis a new thing, I saw it at old Lee's; pretty, is it not?" "Pretty, 'tis beautiful! its price?" "A guinea, there was another left." The visitor's horse smoked off to the suburb; a third flowering plant stood on the spot whence the first had been taken. The second guinea was paid, and the second chosen fucia adorned the drawing room of her second ladyship. The scene was repeated as new owners saw, and were attracted by the beauty of the plant. New chariots flew to the gates of old Lee's nursery grounds. Two fucias, young, graceful, and bursting into healthy flower, were constantly seen on the same spot in his repository. He neglected not to gladden the faithful sailor-wife by the promised gift, but ere the flower season closed, three hundred golden guineas clinked in his purse, the produce of the single shrub of the widow in Wapping, the reward of the taste, decision, skill, and perseverance of old Mr. Lee.

W. H. S.

(From the New York Farmer.)

EFFECTS OF THE PAST WINTER.

It is a singular fact, that while many tender foreign plants stood the severity of last winter as well, or better than usual, such as the Ailanthus, Catalpa, Magnolias glauca, and macrophylla, &c. most descriptions of fruit, which are deemed hardy, suffered more than during many of the preceding years. The destruction has been extensive, among pears, peaches, plums, cherries, quinces and native grapes, and partial among the apples. Either the fruit blossoms, branches, or the entire tree above the surface of the ground were killed. In the latter case, the bark was found to be killed upon the bole or trunk, sometimes generally, at others in circles, at about the height of the surface of the snow in winter.

How are we to account for this uncommon fact? My hypothesis is this: That the foreign plants, being more sensitive to cold, were divested of their leaves by the early frosts, the sap had become concentrated, or reduced in volume, by the cold of the autumn months, and the plants assumed their winter habit before the winter could set in; and that the snow which soon after covered the ground, sufficiently protected their roots. Our indigenous trees, or those more hardy, were kept in a partial growing state by the mild weather of autumn; and their sap vessels were fully distended with juices, when the cold commenced; and that they suddenly became frozen, ere it is condensed by a gradual and natural process, which instead of diminishing, added so to its volume as to burst the sap vessels, and destroy vitality. And I doubt whether it was the severity, so much as the long continuance of intense cold, which proved so injurious. The thermometer did not fall lower than 20 degrees below zero with me; and this degree of cold is not uncommon in our winters. But the long continuance of severe cold was unprecedented in my memory. From the first of December to the seventeenth of January, a period of nearly fifty days, the mercury did not appear above the freezing point but about two hours, and then but one or two degrees. Man is capable of sustaining (and the remark will in a manner apply to other animals) a variation of temperature from 40 degrees below, to more than 200 above zero, but only for a time. The extremes of either heat or cold, soon overcome and destroy the vital principle, if unremittingly applied to the animal system.

FINE FULL BLOOD AND MIXED DURHAM SHORTHORN STOCK, FOR SALE.

I can supply to those who may want them several full bred improved Durham Shorthorn Cows and Heifers at from \$150 to \$300 each according to quality, age, &c. They are generally in calf by the celebrated bull Bolivar.

Also, a full bred bull, of the same breed, near ten months old—a fine animal. Price \$200.

Also, a bull calf, five months old, full bred also. Price \$175.

Also several heifers of last spring by a full bred improved Durham Shorthorn Bull out of cows of the Holstein and Bakewell cross. Price \$50 to \$75 each.

Also, several bull calves, of same age and blood, at from \$25 to \$50 each. Address I. I. HITCHCOCK, Sept. 21. Office Am. Farmer.

STRAWBERRY PLANTS.

The following varieties of Strawberry plants are for sale at the Office of the American Farmer and Seed Store—

NEW PINE. This is probably the best of all the varieties for productiveness, flavor and size of fruit, many of which measured the past season four inches in circumference, without the slightest attention to culture or thinning out. Price \$2 per hundred.

EARLY SCARLET, LATE BOURBON PINE, LARGE EARLY SCARLET, price \$1 per hundred—

These three kinds are those from which gardeners generally supply our market.

Roseberry, Downton, Grove End Scarlet, Bath Scarlet, Duke of Kent's Scarlet, Raspberry Hautbois, New Black Musk Hautbois, Wilmut Superb, Keene's Imperial, Keene's Large Scarlet, fifty cents per dozen.

MELON, METHVEN CASTLE, new and splendid varieties, \$1 per pair. Orders should be sent immediately to I. I. HITCHCOCK.

GARDENING.

Wants a situation as Gardener, a person who understands the business in all its various departments, viz. the care of Hot-house, Green-house, Forcing, and Cold Frames, Kitchen Garden, &c. also, the culture of the Vine, and laying out new Gardens, Lawns, and Pleasure Grounds, on the latest and most approved plans.

Satisfactory references can be given by application at the Office of the American Farmer and Seed Store.

Oct. 19. 11/1 Imwc

PLANTATION FOR SALE.

The Subscriber offers for sale the plantation whereon he lately resided in Sassafras Neck, Cecil county, Maryland, one mile below Rose Hill, the seat of General Fortman, and about fifteen miles below the mouth of the Chesapeake and Delaware Canal. It contains eight hundred and eight acres, of which about five hundred and fifty acres are arable, and for the most part in a high state of cultivation. The wood and timber abundant and fine. The quality of the soil is first rate, and little or none of the tract is waste. Its form is an oblong square, and is bounded on the South by Sassafras river, and on the north by Ponds creek, and may be said to be enclosed on two sides by water. On the tract is Ordinary Point, one of the most celebrated points for duck shooting in Maryland, especially for canvass backs. The situation is high, and commands a fine view of Turkey Point and the head waters of the Chesapeake bay, and is about mid-way between the Philadelphia, Brandywine and Baltimore markets, and has convenient landings for shipping the crops to either market. For the growth of Indian corn, wheat, timothy and clover, this farm is not surpassed on the Eastern Shore of Maryland, and as such offers the highest inducements to the farmer, the grazier, and the sportsman.

The improvements are a comfortable dwelling house, and other suitable buildings, a young apple and peach orchard, in full bearing, and a choice collection of other fruits. It will be sold low and the terms of payment made easy. To the capitalist it is an object for an investment, as the rents received will average per annum seven per cent. on the sum that would command it.

For further particulars apply to Levin Gale, Esq. Elkton; James Rogers, Esq. New Castle, or to William Cooke, Esq. Baltimore. Captain Craddock, residing on the place, will show it to persons desiring to see it.

O. HORSEY,

Sept. 7. 6L. Petersville, Frederick Co. Maryland.

FREDERICK SHORTHORNS.

I will sell from four to six COWS, of my former English stock, now in calf by Powell or Frederick, from six to ten years old, at from 30 to 50 dollars—such cows as have raised me my half bred Durhams, the females of which cannot well be in market for some years to come. Some of these cows have either bull or cow calves by their side, by the aforementioned bulls, and will add to the price of the cows from 25 to 50 dollars. The cows are offered at a price little above what they would be worth if well fattened. They have been kept almost exclusively for raising calves, and a purchaser would be referred to them male and female, as great proof of their value—in the absence of the male, the price they have sold at. Also, two or three full blood Frederick BULLS, 18 months old, at from 75 to 100 dollars, and one or two HEIFERS.

R. K. MEADE,

White Post, Fredk Co. Va.

3L

THRESHING MACHINES.

The Subscriber would inform the public that he has obtained the patent right for FOX & BORDLAND'S PATENT THRESHING MACHINE, for all the State of Maryland, with the exception of Washington, Frederick, and Montgomery counties, and also for the lower counties of the State of Virginia that lie contiguous to Maryland. These machines possess several and very important advantages over all other machines, which have been introduced for threshing. The concave bed to this machine is placed upon springs, which enables it to recede from the cylinder when over fed, or any hard substance gets in, this, with the peculiar form of the spikes and the manner of setting them, renders it impossible to break or injure the machine, and at the same time enables it to perform the work with about one-half the power required by other threshers. It can be readily set to shell corn with great facility, and also to break the corn cobs sufficiently fine to feed stock; it is likewise very simple, easily managed, and the price reasonable, say from sixty to eighty dollars, according to size, or including the horse power complete, from one hundred and sixty, to two hundred dollars. To those countries referred to in Virginia, he offers the patent right for sale to include a machine with each component. All communications by mail, post paid, will meet prompt attention.

J. S. EASTMAN,

Pratt, near Hanover street, Baltimore.

DEVON CATTLE, &c. FOR SALE.

For Public Sale, at the Three Ton Tavern, in Pratt Street, on Saturday the 3d day of November, at twelve o'clock, a choice collection of Devon Cattle, also, Horses, Asses, and Rams of the Bakewell and Southdown breeds, viz.

Fifteen Cows of the full blooded Devon, from Mr. Coke's breed, of Holkham, in Great Britain.

Four Bulls of the same breed.

Twenty-five Heifers and Calves of the same breed.

The stud horse Hickory, five years old, of the blood of the imported horse Exile, from a mare got by the horse Hickory. This breed of horses unites the qualities of action, strength, and docility more than any other known breed.

Sundry Horses and Colts—and Rams.

A Jack of the breed of the Knight of Malta, and of the Royal Gift, five years old, and a good foal getter—his sale cost \$500.

Two Jennies of the same blood,—five years and clover three years old.

The terms of sale are, cash for any sum under \$100; and six months' credit for sums above \$100, with satisfactory security.

ts

Sept. 23.

STRAWBERRY PLANTS.

The subscribers are now prepared to deliver to order, Strawberry Plants of the most approved kinds, which will be packed so as to warrant their safe arrival at any part of the United States. The months of August and September being the most favorable season for transplanting, it will be well for those who wish to purchase, to give their orders early, and by care in planting, with an occasional watering, fine plants may be produced.

SINCLAIR & MOORE,

Aug. 10. Grant street, near Pratt-st. wharf.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—We make room for our prices current, though there is little change worthy of notice. Howard street flour from wagons, is selling at \$5.87 1/2. Wheat, rye, corn, &c. have experienced little change since our last. Grass seeds have begun to come in slowly, and it is expected there will be a very short supply. Clover seed is now selling from wagons at \$7.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine tobacco, 18.00 a 26.00.—Virginia, 4.00 a —Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 443 hds. Md.; 14 hds. Ohio; and 3 hds. Ken.—total 460 hds.

Flour.—best white wheat family, \$6.75 a 7.25; super Howard-street, 6.00 a 6.06 1/2; city mills, 5.62 1/2 a 5.75; city mills extra 5.87 a 6.00;—CORN MEAL bbl. 3.50;—GRAIN, best red wheat, 1.12 a 1.15; white do. 1.15 a 1.20;—CORN, white, 75 a 75.00; yellow 75 a 75.00;—OATS, 32 a 34.—Beans, 75 a 80.—Peas, 65 a 70.—CLOVER-SEED 2.00 a 2.25.—Tallow, —a—ORCHARD GRASS 2.00 a 2.25.—Tall Meadow oat Grass 2.00 a 2.50.—Herd's, 75 a 87 1/2.—Lucerne —a 37 1/2 lb.—BARKLEY, FLOWERED 1.50 a 1.62.—COTTON, Va. 8 a 10 1/2 lb.—9 a 13.—Alab. 8 a 11 1/2.—Tenn. 8 a —;—N. Car. 8 a 10.—Upland 8 a 11 1/2.—WHEAT, hds. 1st p. 32 a —; in bbls. 33 a 34.—Wool, Washed, Prime or Saxony Fleeces 45 a 50; American Full Blood, 38 a 42; three quarters do. 33 a 38; unshod do. 30 a 33; quarter do. 28 a 30; common 25 a 28.—Unwashed, Prime or Saxony Fleeces, 25 a 30; American Full Blood, 22 a 25; three quarters do. 20 a 23; half do. 18 a 20; quarter do. 16 a 18; common, 16 a 18.—HEMP, Russia, ton, \$210 a 225; Country, dew-rotted, —a 7c. lb. water-rotted, 7a 8c.—Feathers, 37 a 38; Plaster Paris, per ton, —a 4.37 1/2; ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 35.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 75.00 a 85.00.—Prime Beef on the hoof, 5.00 a 5.50.—Oak wood, 3.37 a 3.75; Hickory, 4.50 a 5.00; Pine, 2.25 a 2.75.

CONTENTS OF THIS NUMBER.

Editorial; American Vine; Large Egg Plant; Convertibility of Wheat into Cheat—Account of an Agricultural Excursion, undertaken during the Spring of 1832, by John D. Legare, Esq. Editor of the Southern Agriculturist, continued—Berksire Agricultural Society—An Address delivered before the Horticultural Society of Charleston, at the Anniversary Meeting, July 11, 1832, concluded—On the Improvement of the Breeds of Hogs, by R. K. Meade, Esq.—American Vine, Process of Making, solicited—Pernicious Effects of Vitiated Rye—On the Construction of Lightning Rods—Introduction of the Fucia Tree into England—Effects of the past Winter on the Vegetable Kingdom—Advertisements—Prices Current of Country Produce in the Baltimore Market.

The American Farmer,

Edited by GIDEON B. SMITH, is issued every Friday.

TERMS.

1. Price five dollars per annum: due at the middle of each year of subscription, provided that no balance of a former year remain unpaid.

2. The manner of payment which is preferable to any other for distant subscribers, is REMITTANCE BY MAIL OF CURRENT BANK NOTES; and to obviate all objection to this mode, the publisher assumes the risk.

3. Subscriptions are always charged BY THE YEAR, and never for a shorter term. When once sent to a subscriber, the paper will not be discontinued (except at the discretion of the publisher) without a special order, on receipt of which, a discontinuance will be entered, to take effect AT THE END of the current year of subscription.

4. PRICE OF ADVERTISING.—One dollar per square, and in the same proportion for more than a square, or more than one insertion.

5. DIRECTION OF LETTERS.—Address all BUSINESS letters concerning the Farmer, the store, the agency, to the proprietor, G. I. Irvine Hitchcock, Baltimore, Md.

Printed by J. D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, OCTOBER 26, 1832.

NATIVE GRAPES.—We are indebted to Dr. Norton, of Richmond, Va. for specimens of the "Woodson" and "Cunningham" grapes, both native varieties, introduced into his vineyard from Prince Edward county, in that state. The Woodson is a red grape, three-fourths the size of the Bland and Catawba, and resembling these in color. The bunches are compact, oblong, without shoulders, and weigh from 1 to 6 oz. The flavour, rich in saccharine matter, and pleasantly acid; berry spherical, nearly free from pulp, skin moderately thick. The Cunningham is a black grape, covered with bloom; berry spherical, rather smaller than the Woodson; bunches ragged, but of good size, and free from pulp. The flavor is very fine, juice exceedingly rich in saccharine matter, spirited and sprightly—there appears to be no water in them. The skin of this grape is rather thick and leathery, and this appears to be the only fault that can be found in it. Neither of these grapes has the slightest particle of the foxy flavor, and they have generally but one small seed. We have taken some pains to get the opinion of good judges as to their qualities. Gentlemen who have many choice varieties, both foreign and native, in their vineyards, and who have taken great pains to obtain and introduce good ones, have tasted these, and give it as their unqualified opinion, that they are very far superior to any other native varieties they have seen, and even to most foreign grapes, both for the table and for wine. We know not whether they have been tried for wine, but the Cunningham certainly possesses all the constituent principles of a first rate wine grape in a pre-eminent degree; and the Woodson is little less rich in this respect.

We shall be glad to receive from Dr. Norton a full history of these grapes. Are they hardy, subject to rot, abundant bearers? are the vines thrifty growers? do they propagate readily from cuttings and layers, either or both? Do they bear or require close pruning? Do they start their buds early in spring, and thus subject themselves to injury from late frosts? Are they natives of low wet, or high dry grounds? Have they ever been tried in making wine? Can the vines be had, of whom, in what quantities, and at what price? Will the Doctor send us an impression of a leaf of each, taken in the same manner that he took that of the Scuppernon, with which he favored us a few years ago?

NEW FOOD FOR HOGS.—We bespeak the gravity of our readers on reading the following; they must not laugh at us for our easy credulity, nor reject the proposition on account of its seeming improbability. For ourselves, we have no doubt of the truth of the facts stated, nor of the soundness of the principles upon which the experiments were based. But to the subject:

A few weeks since, two of the members of the United Society of Shakers, at Lebanon, N. Y. were at our office. They informed us, that they had tried an experiment in feeding hogs with the *no dust* produced in their button and other wooden ware factory, by mixing it with the usual food, in the proportion of one-third; that is two parts of the usual food, and one part of the saw dust; and that the hogs thrived fully as well as when fed in the usual way. From their experiments they are satisfied that the saw dust was digested by the animals, was nutritious, and answered in all respects the purposes of the usual food. They had endeavored to ascertain the least quantity of the usual food necessary to the thrifty growth of their hogs, and then used saw dust as a substitute for one-third of it; so that the objection that the two-thirds of the usual food was probably sufficient, cannot be raised. They have not completed their ex-

periments, but are extending them to ascertain whether a still greater proportion of saw dust may not be used, and how much more. We believe they intend also to try experiments with other animals.

These facts may be relied on as strictly correct. The people who tried the experiment, and those who related them to us, are not given to visionary projects nor to marvellous story telling. They are generally scientific men; one of them that visited us was one of the best butanists we ever met with. It seems no way improbable that wood should contain a large quantity of nutritive matter. When decomposed by fire the proportion of insoluble matter is very small, not greater than that of any kind of farinaceous fruit or grain after the water has been evaporated. There is a large quantity of saccharine matter in most wood, or at least in the juices, and we think it no way improbable that both gluten and farinaceous matter, as well as sugar, may enter largely into the composition of the soluble parts of wood—even what is called by chemists *wooly fibre*—and that these parts of wood when pulverised, may be digested and become nutritious matter in the stomachs of animals. We are not sure that we recollect perfectly the kind of wood used by the Shakers in their experiment, but believe it was what is commonly called soft maple, *Acer rubrum*. They have promised us a detailed account of the result of their experiments as soon as they shall have completed them.

HORTICULTURAL SOCIETY.—Most cordially do we concur with the writer of the following article in recommending the establishment of a Horticultural Society in Baltimore, and look for the accomplishment of the object with confidence. Let those who have the qualifications, *mental and melotic*, step forward, and it will be done. There is not a city in the Union better adapted than Baltimore for the operations of such a Society, and none better supplied with materials for it to operate with as well as upon.

(From the Baltimore American.)

MESSRS. EDITORS.—Seeing, several times in your paper, remarks on plants and flowers, I could not but regret that our citizens, so enterprising in every thing else, should show so little zeal for an object so important as Horticulture. I say *important*, for, setting aside the immense good of which this science is productive, either by bringing into use as articles of food, foreign plants used as such in the countries where they grow spontaneously, or by improving the qualities of those we already possess—apart, I say, from these considerations, Horticulture is important even as an amusement. The human mind requires relaxation, and in the absence of innocent pleasures, recourse is too frequently had to pastimes of a vicious and demoralizing character. Now, any thing that can tend to remedy this evil is certainly important, and if we can substitute a pursuit which, at the same time that it relaxes the mind, tends also to enlighten and improve it, and lead the heart to the Creator of all, it is doubly important. Can there be found a more agreeable, rational, *innocent* amusement than the culture of plants and flowers.—Can any thing be more worthy of the attention of a creature endowed with reason, than the study of these beautiful productions, the investigation of their habits and properties? Can any thing be more attractive than to witness their progress, the unfolding of the tender leaf, the appearance of that miracle of Divine wisdom the flower-bud, so admirably adapted to the purpose for which it was designed, expanding at length into a flower of texture so delicate, of colouring so resplendent that "*not even Solomon in all his glory was clothed as one of these?*" Again—to the religious mind can any thing be more gratifying than to contemplate the glory of the Almighty artist in these his most beauteous works; to be compelled at every moment to exclaim "the finger of God is here?" To observe their endless variety, their fanciful forms so strikingly contrasted, their ha-

bits, so whimsical, (if I may be allowed the term?) One unfolds itself in the morning; another expands its delicately tinted blossoms to the setting sun, some delight in the presence of the great luminary, and turn their flowers to him, as if to do him homage, others shrink from his bright glances and unveil their beauties only during his absence, whilst the great cereus, with floods of delicious fragrance, displays her glory to the stars. But to attempt here even a mere enumeration of the interesting objects to be met with in this vast field.

"From giant oaks that wave their branches dark,
To the small moss that grows upon their bark,"

would be useless. *He* must be fastidious indeed, who could not in so extensive a department, find some enjoyment suited to his taste.

Why then has not Baltimore done something for the advancement of this science? We hear of the Massachusetts Horticultural Society; we hear of the "exhibitions" of the societies of New York and Philadelphia; where is the Baltimore Horticultural Society? Why should not the inhabitants of the monumental city have their exhibitions of fruits and flowers, and by giving "honor where honor is due," stimulate to more powerful and scientific exertions, the enterprising individuals who now turn their attention to Horticulture—for such individuals we have among us, although the *public* has as yet done nothing. It is with feelings of no ordinary gratification that the writer of this has perceived, in addition to the already existing nurseries, a rising establishment, which bids fair to be an honor to our city. I allude to the new garden and nurseries of Mr. Samuel Feast, now opening on the Franklin road, near the residence of Thos. Edmondson, Esq. A fine greenhouse has been erected, and is now filled with a choice collection of plants, rare exotics and beautiful flowers. The splendid tribe of Camellias has not been forgotten. The beautiful Mexican, so long almost a stranger among us, but which now, thanks to the praiseworthy exertions of the editors of the American Farmer, begins to be more known and consequently admired—the Dahlia has also been attended to. Some quite new varieties, lately obtained from seed by Mr. Feast, are exceedingly beautiful.—Roses in every variety of shade and color; from pure white to the darkest crimson, with hundreds of other objects, some beautiful, some curious, all highly interesting. The situation also is unrivalled, and the surrounding scenery beautiful. In a few days the arrangements will be completed, and then to the lover of plants and admirer of nature, a visit to Mr. Feast will prove a rich treat.

It is not that this city possesses no gardens; it is not that its inhabitants are ignorant of Horticulture;—some of our most distinguished citizens, much to their honor, maintain very fine collections, but our *light is hidden*—it should be placed upon the candlestick, and this can be effected only by a Horticultural Society. Let us have this, and Baltimoreans will no longer have to blush when they hear the citizens of other places speak of their gardens and Horticultural exhibitions.

D***.

LARGE POTATOES.—Mr. Kone, the manager of Mr. Wilson's farm near the York road, left at our office a few days ago, four potatoes, weighing together *nine pounds and a half*.

ANOTHER LARGE EGG PLANT.—We were shown an Egg plant on Tuesday, raised by Mr. Samuel Register, that measured two feet ten inches in circumference, and weighed upwards of thirteen pounds.

§5. We crave the patience of our agricultural friends, with our horticultural matter. This is a peculiar season, and flowers and fruits have fairly got the better of the more substantial subjects; but we shall take care that they do not keep it. We shall endeavour to be more agricultural in future.

AGRICULTURE.

(From the Southern Agriculturist.)
ON THE CULTURE OF RICE.

Charleston, July 2, 1832.

Dear Sir,—I will now attempt to answer the queries which you put to me last spring, when I had the pleasure of receiving a visit from you at "Campere," relative to the management of a rice crop on Cooper river. I assure you, that it was not for want of proper respect for your request that I have so long delayed in sending you this; circumstances beyond the reach of my control have alone prevented. Your surprise and disappointment, however, will be very great when you find that nothing new is communicated on the subject, or perhaps, nothing that does not already appear upon the pages of your useful journal. Nevertheless, as your chief desire, in this instance, appears to be that of imparting practical information, and as some young adventurer in rice-planting may get a hint whereby he may derive some benefit, you are at liberty to publish such parts of this statement as you may think proper. As the questions are very numerous, and go so far into detail, I know not how I can so well meet your views as by giving a full narrative of the "*modus operandi*" that has been steadily, and somewhat successfully practised for many years on my plantation. I am, however, not prepared to say whether it differs in many respects from the general practice on the river; but my impression is, that there is no material difference. In order to prevent prolixity as much as possible, I will divide the subject into the following parts or heads:—preparation of the land, planting, hoeing, watering, and harvesting.

First: *Preparation of the Land.* My river banks have as much base as the locality will admit of, raising very gradually to the top, particularly on the outer or river side, that the water may lay as shallow against the bank as possible, whereby the bank is much less liable to break than if built up with but little slope. So great is the rise and fall of the tides in our river, (seven feet in ordinary tides) and so light and husky the soil, that except the banks are well covered with highland clay, the labor upon them is endless, having to raise some parts every year. The cross or dividing banks are ten feet wide at the bottom and four at top. The river margin within the field is forty feet wide, the margin of the cross banks is twenty; the marginal ditch which surrounds the field is six feet wide at top, and three at bottom, and five feet deep; the small ditches are two feet wide, and three deep—they are seventy-five feet apart, and run in the direction from the highland to the river.—If the field is lengthy, say, nine or ten tasks, (a task with us is one hundred and fifty feet square) I put a centre ditch, four or five feet wide, crossing the small ditches which greatly facilitates their draining. The trunk is put down to low-water mark, and as nearly opposite the centre of the field as circumstances will permit. Eighteen or twenty acres is the best size for a field, in my opinion; to which one trunk, three feet and a half wide, and eighteen or twenty inches deep in the clear, is quite sufficient. My trunks are twenty-eight feet long, and as we are (to our sorrow) liable at times to salt water, and the utmost diligence on the part of the best trunk minder cannot, at times, prevent sticks or trash getting into the trunk door, by which the field gets partially or wholly flowed. I have two trunks which are located in the following manner:—one is placed under the river bank in the usual way—a half moon bank the size and height of the river bank, is made on the outer or river side, and another trunk the exact size of the one under the river bank, is put down immediately in front of it, and just far enough to allow the doors to work without interfering with each other. In this way, this field is doubly guarded against salt water, for it is scarcely possible that the same accident would happen

to both trunks at the same time. Moreover, another great advantage attends having the double trunks, which is this—if either wants repair or adjusting, it can be taken up, or a new one put in its place at your leisure, at any season of the year without the least risk, or even encountering the hurry and inconvenience of doing tide work. Having banked and ditched the field and put down double trunks, I will now state what is done in preparing the field from the time the old crop is cut until the new is planted—first observing, that it is perfectly impossible to succeed in making a full crop of rice if the fields are not thoroughly drained by deep ditches and the trunks perfectly tight. As soon as possible after the rice has been cut and carried out of the field at harvest, it is gleaned of all the ear rice that remained scattered over the field, and the water is immediately put on for four or five days; then run off and the field kept as dry as possible until the stubble is dry enough to burn, or is hoed off and carried out for manure. The object of this flowing is to soak every grain of rice remaining in the field, so that it will either germinate or rot, and prevent its becoming volunteer rice the next season. So important do I regard this operation, that if, from the want of time, or any other cause the field cannot be gleaned within a few days after harvest, I put on the water and sprout the ears of rice, together with the scattered grains, believing it better to lose the gleanings than to have a field polluted with volunteer rice. By pursuing this plan and not allowing horses or cattle of any description to go into the fields, and planting none but choice seed, I have succeeded in sending my rice to market, for a few years past, as free from red as any that comes to Charleston. This is not said with a view of boasting, but merely to show why my rice which was formerly polluted with red is now free from it.

As soon as the stubble is off, the fields that are to be turned up are dug just deep enough to turn over a sod of the old roots. In our old highland lands, I have found by repeated experiments, that it is a disadvantage to turn up the land very deep, for although the quantity produced would be greater when dug deep, yet the quality is far inferior to that which is dug light or not at all. Rice produced on land that has been dug deep, on Cooper river, is much more chalky and dark than from land not turned up. When the field is turned up, the ditches are shovelled out to the original depth, if possible; the mud and trash from them is carried off and scattered or put to fill up creeks on low places, for if any mud is allowed to remain at the edge of the ditches, it soon forms a ridge, and is very injurious to draining, the field is then flowed deep and kept so until ten days or a fortnight before planting, when it is run off and kept very dry. A day or two before you trench, chop and level the field, four hands to an acre, by this time the first crop of grass and volunteer rice will have been well up; this chopping, together with the trenching, and covering with the beaters, completely destroys the first crop of grass, and enables the rice to get a long start of the second crop; it is, in fact, more important than the first hoeing of young rice, as you can much more easily keep a head of grass all the season, when your crop is well up on a clean field. It is advantageous to change the water frequently in order to get as much of the sediment as possible which is deposited, and of which there is a great deal in river water; it is not uncommon to see it nearly an inch thick upon some parts of the mill pond after six months' flowing in winter. It gives to our long cultivated land, a freshness and fertility which makes it in some degree more like new land, gives great vigor to the plant, and clearly proves to my mind, the advantage of winter flowing. I regard it just as important to rice as the marsh-mud is to cotton on the old land of the islands. The above is the preparation when the field is turned up. But I greatly prefer not turning up the land when the field is in fine order; by which I mean, when the ditches are near and deep enough, and the

trunks perfectly tight, without which, indeed, under any circumstances, success is impossible. The mode I allude to is this: the preparation is the same in every respect up to the turning off the water a fortnight before planting, *except* that the land is not dug up. A day or two previous to trenching, the alleys, between the old rows, are hoed up with the rice, or eight inch hoe, exactly in the same way as if you were hoeing rice, by which the ground is sufficiently stirred and loosened, and the grass as effectually killed where the rice is to be planted, and when you hoe your rice for the first time, the old rows of rice roots enable you to turn over a much more firm sod, and what grass is upon it is turned under and dies; but more of that under the head of hoeing. The saving of labor is very great by this cultivation; for example: when the field is dug up, previous to flowing, the task is three hands to an acre, and in chopping, four hands to an acre; equal to seven days' work of one hand; while by merely hoeing the alleys the task is two hands to an acre; the difference, consequently is, that it requires the work of one hand for seven days to prepare by the first mode, what one hand will do in two days by the latter, and I can confidently say, that as much and as good rice is made by the one way as the other. Nor is this the only advantage, for in trenching, you dispense with the use of stakes, merely trenching between the old rows, by which the markers, or stake men, (to be described hereafter,) do three-quarters of an acre each per day instead of half an acre.

J. BRYAN.

(To be continued.)

(From the Southern Agriculturist.)

RULES FOR THE HOUSING AND PRESERVING OF SWEET POTATOES.

Christ Church Parish, June, 1832.

Dear Sir,—In compliance with my promise, I here-with furnish you with the rules by which I have been governed for many years in putting up my potatoes. I have been very successful in following them, and I hope they may prove beneficial to others. The first thing to be considered is the cellar, and I would recommend—

1st. The rails or puncheons to be split in July, or the first of August, and stacked up for drying.

2d. The cellar to stand east and west, with the door in the centre and perpendicular, to face the sun the most part of the day.

3d. To be made on as dry and high a spot, and convenient for draining as possible, and made at least five weeks before wanted.

4th. To be double banked, by making a coarse frame to support the same. The earth to be taken four feet from the foot of the cellar all around, about three feet wide, eighteen or twenty inches deep; in this ditch, never let any water remain, but keep it perfectly dry.

5th. To be supported inside by short crutches, standing three feet high with poles, or rails laid lengthways in those crutches. By thus supporting your cellar, it will last you two years with safety, by airing it. When your cellar is finished, small fires to be made at each end, that it may be perfectly dry and clear of damp.

6th. The cellar to be perfectly tight with no air holes left—to have two doors, one a tight door for the inside, the other a slat door hung on, and opening on the outside; the slat will admit the requisite air as much as it may be necessary.

7th. The pine-trash to be well dried as usual, and laid in the cellar six inches thick at least, and if dried a second day, it would be of advantage.

8th. To begin with your potatoes—make four sortments in the field; 1st, all that are the least touched with frost or chilled—2d, all that are cut—3d, seed—4th, eatable potatoes—to be harvested free from any kind of wet or rain, and brought in by sunset, and on no consideration move them a second

time, but put them where you intend to keep them from the first move out of the field.

9th. On commencing your housing, small fires to be made in any thing convenient, say a large pot, with a little earth in the bottom, every evening, until all are housed; your slat door then to be used, leaving the inner one open, and admit the air freely every morning, but shut in time, say two or three hours before sunset.

Now, having housed your crop, you will find considerable damp, but not detrimental, if you will pay attention to it, which is one of the principal secrets to be observed. On seeing this in a moist morning you must have a small fire or a smoke of lightwood or pine bark made to clear up this damp, and sometimes a second fire will be requisite, of which, you will be the best judge when sufficient. Observe to keep the tight, or inner door, open at the same time and they will soon become cool. In a state of moisture your potatoes will remain for ten or twelve days. After this you will find them become more cool and much less damp in your cellar, which you should examine every morning. About this time you will find them sprouting, then you are sure of their keeping. But little trouble is now required—only, on seeing the damp, to make a little fire and open your inner door for air. The sprouted part of them is only on top of the heaps, not more than five or six inches deep: on examination, you will find the inner or lower part of them clear of sprouts, and dry. In my opinion, slips may be kept thus for two years; and root potatoes much longer than they generally are in our country.

The slat (of which the doors are made) is about two and a half inches in width and the same between each slat to be open. The door is about five feet high and two feet six inches wide.

A coarse frame is made with crutches for double banking. Your obedient servant,

JOHN M. PHILLIPS.

Note.—The plan here laid down by our correspondent, has been successfully followed for many years, and we have been shown potatoes kept more than a year by him, in these cellars. Our readers will recollect that another of our correspondents experienced great benefit from the use of smoke in his cellars, and from all we can learn, we are inclined to believe that they may be kept longer in a sound state by following these rules, or similar ones, than any other mode in common practice among us.—*Ed. So. Agr.*

(From the London Gardener's Magazine.)

PRANGOS HAY PLANT.

In the 9th No. recently published, of Wallich's *Rarer Asiatic Plants*, the pangas hay plant is figured and described; and such extraordinary agricultural properties are ascribed to it, that we take the earliest opportunity of noticing it to our readers.

"Its properties as a food for agricultural animals appear to be heating, producing fatness in a space of time singularly short, and also destructive to the Fasciola hepatica, or liver fluke, which in Britain, after a wet autumn, destroys some thousands of sheep by the rot—a disease that, to the best of my (Mr. Moorcroft's) knowledge, has in its advanced stages proved incurable. The last mentioned property of itself, if it be retained by the plant in Britain (and there appears no reason for suspecting that it will be lost), would render it especially valuable to our country.—But this, taken along with its highly nutritious qualities, its vast yield, its easy culture, its great duration, (a single planting will continue in healthy and profitable growth for forty years or more; hence the plant is a most durable perennial), its capability of flourishing on lands of the most inferior quality, and wholly unadapted to tillage, imparts to it a general character of probable utility, unrivalled in the history of agri-

cultural productions. When once [it is] in possession of the ground, for which the preparation is easy, it requires no subsequent ploughing, weeding, manuring, or other operation, save that of cutting and converting the foliage into hay. From various facts it is conceived not unreasonable to presume, that, by the cultivation of this plant, moors and wastes, hitherto uncultivated, and a source of disgrace to British agriculture, may be made to produce large quantities of winter fodder, and that the yield of highlands and of downs enjoying a considerable depth of soil may be trebled."

Britain does not, yet contain living plants of *P. papularia*, although it appears that seeds of it were sent here as early as 1814; whether when living plants be possessed, British winters may not be too severe for them, remains to be proved: but the writer above speaks as if he had little or no doubt on this point; and as the plant is from a temperate part of the East Indies, (the neighborhood of Inbal or Druz,) it may possibly be sufficiently hardy.

(From the New England Farmer.)

RECLAIMED MARSHES.

MR. FESSENDEN:

August, 1832.

I some time since, placed before your readers several numbers, to show the ill effects of diking, or shutting out the sea from our marshes, and how far experience was against it, in very many well tried experiments about us. Some reasons too were offered why diking might be beneficial in Nova Scotia particularly, and yet otherwise here. Among these, we repeat, are the different constituent principles of the soil—much of it there being in mud banks at the mouths of rivers, &c; their greater depth, and the greater time they are covered by water. Besides that it is admitted that in their natural state their production is only "a worthless coarse herbage."

Their formation, and rich accumulation by the inrush of the tides, forming thereby what has been denominated "a perfect soil," has been mentioned. About the Bay of Fundy, Dr. Morse "places their rise at from thirty to sixty feet, and so very rapid is it, says he, that swine and other animals, feeding on the shores which the tide overflows, are often overtaken and overwhelmed, unable to make their escape." This will be considered the more striking, when contrasted with our tides, which rise from eight to thirteen feet only.

It was about these waters, says Agricola, "that the French planted themselves, in the first occupation of the country in 1606, and threw across those dikes and bateaux, by which they shut out the ocean, and possessed themselves of the rich marshes of Cornwallis and Horton."¹

But he denies in the most favored of these, "a perpetual fertility, without a supply of animal or vegetable matter as a chimera," and adds, that "by the cultivation of them for a number of years in succession, they must be worn out, as a contrary opinion is in despite of the first laws of vegetable nature."

"That a degree of fertility is preserved, by laying out these marshes to grass, and keeping them so for several seasons. Yet notwithstanding these intervals of rest, which to a certain extent recruits all soils, the product of the best marshes, may now be estimated at from twelve to fifteen bushels, which is not half they once yielded, or would again yield, were a different system of management adopted, by giving them a certain portion of the *barn manure*." This judicious writer has been availed off, to show that however extraordinary the causes may be, by which a soil is created so favorable for diking, and so productive thereby, yet even in these cases of exuberant fertility, they are alike subject to the laws of the vegetable kingdom. We have been somewhat diffusive,

¹ In King's county there are 10,000 acres of marsh. In Cumberland county, 20,000, mostly diked.

to show that the productiveness of these marshes, though long and justly celebrated, is not, as some have supposed, a promise and lavish outpouring, to be forever relied upon: but a principle, the regulation and support of which, demands the consideration of the husbandman. *Hercabouts* our marshes are spread out in thin and level strata, and are occasionally overflowed by the influx of the tides, and derive a constant fertility therefrom. They occasion no expense of labor, fencing, culture, manure, &c.

By diking, the rich and fertilizing deposit is shut out, and the land it appears falls into a state of barrenness, and instead of contributing to the resources of the farmyard demands its contributions therefrom. 'Tis this immense capital or accumulation from the sea, so useful on the sea coast and so important to the interior, would be rejected and lost. And are there then no objects in our agriculture where much might be gained without such hazard in experiment? There is not a farm in the country, where a judicious culture in draining by ditches, graveling, &c. would not, by destroying the worthless aquatic grasses, produce a more sweet and nutritive growth; for this our means want strength and enlargement, instead of diminution.

If then vigor can be given to this mode of improvement of our low lands, "present to every farmer, it would make the surface of the country more pleasant to the eye, add to its health by purifying the atmosphere, as well as enlarge the means of production and comfort. It has been our endeavor to prove that the proposition to dike our marshes as suggested by your correspondents would be inexpedient. We have thought it would be an extensive injury, and have given the reasons on which this opinion is founded. It is but seldom that so many experiments have been made, both by incorporated companies, and by individual enterprise on any like subject. As all of these have failed of success, and the instances have been stated, it seems little short of demonstration. And we ask if experience so well confirmed should be disregarded.

I am, sir, yours,

JOHN WELLES.

HORTICULTURE.

The following able and interesting essay by Doctor MEASE, of Philadelphia, was read at the last meeting of Massachusetts Horticultural Society, and directed to be published in the New England Farmer.

ON THE RECIPROCAL INFLUENCE OF THE STOCK AND ITS GRAFT.

BY JAMES MEASE, M. D.

The opinion that the fruit produced by a graft is not in the least affected by the stock in which the graft is inserted, has long been held as an axiom in vegetable physiology, merely on the authority of Lord Bacon, who lays it down, "that the scion over-ruled the stock quite, and that the stock is but passive only, and giveth aliment, but no motion to the graft." In other words, he considers the stock merely as a source of nourishment, to be communicated to the scion in the vessels of which it is to be decomposed or digested, and made to produce fruit in the time natural to the tree whence the scion is taken, and according to its peculiar kind.

I think I shall make it appear, that although as a general rule, the principle is correct which assigns a passive agency to the stock, yet on many occasions, it often has a decided influence not only on the vigor or fertility of the grafts, but also on the nature and quality of the fruit, and that a scion even effects the production of the stock.

1. The first proof I had on this subject, was given to me by the late Joseph Cooper, of New Jersey, an

* The writer, on such land well prepared, has raised over four tons of herds grass to the acre.

experienced and observing farmer and horticulturist, who in the year 1804, showed me two trees, both engrafted with the same kind of apple by himself, and at the same time. The stock of one was the Campfield apple, a native and excellent fruit, that of the other was an early apple, and in both instances, the fruit produced by the graft partook of the flavor peculiar to the fruits of the stocks.

Mr. Cooper afterwards communicated to me in writing his remarks on this subject, as follow: "I have in numerous instances seen the stock have great influence on the fruit grafted thereon, in respect to bearing, size and flavor, and also on the longevity of the tree, particularly in the instance of a number of Vandevere* apple trees, the fruit of which was so subject to the bitter rot, as to be of little use. They were engrafted fifty years ago, previously to 1804, and ever since, those of them which had tops composed of several different kinds, though they continue to be more productive of fruit than any others in my orchard, yet are subject to the bitter rot, the original and well known disease of the fruit of the stock. I have had frequent opportunities of observing the same circumstance, in consequence of my receiving many scions from my friends, which after bearing, I engrafted, and the fruit uniformly partook in some degree of the qualities of the former, even in their disposition to bear annually or biennially."

2. A correspondent of Mr. Bradley, (Mr. Fairchild) budded a passion-tree, of which the leaves were spotted with yellow, into one that bore long fruit; and though the buds did not take, in the course of two weeks, yellow spots began to show themselves about three feet above the inoculation, and in a short time afterwards, such spots appeared on a shoot which came out of the earth from another part of the plant. The publication of these facts, is a proof of the candor of Bradley, inasmuch as they opposed his theory which was similar to that of Lord Bacon, for he says, "the scion preserves its natural purity and instinct, though it be fed and nourished by a mere crab."

3. The late celebrated English gardener, William Seeley, regarded the stock as over-ruling the scion, and in confirmation of this opinion says, that "when ever a cutting is taken from an aged tree in a state of decay, and engrafted upon a thriving stock immediately from seed, it may with propriety be considered as a renovation from decrepit old age, to youth and healthful vigor." In his treatise on the culture of the vine, he adds, that "he had improved many kinds of vines, by engrafting those which have generally weak wood on plants which are stronger."

4. Thomas Hitt, another well known English gardener and writer, says, "that the future vigor of trees depends equally upon the soil and stock, and that the tastes of the fruit may also be improved by proper stocks." Hence he gives very particular directions as to the selection of stocks for various fruits, and illustrates the necessity of attention for them, by stating the fact, that "if two nonpareil branches are grafted the one upon a paradise stock, the other upon a crab, and both planted in the same soil and situation, that upon the crab stock will produce fruit so sour and ill tasted, in comparison to the fruit of the other, that if a person should taste them both in the dark, he could not imagine them to be the same fruit."

* This delicious apple is named "Vandevere," after one of the Swedes, who in the early settlement of the river Delaware, resided near Wilmington, about 27 miles below Philadelphia. It is supposed therefore, that he brought the original trees from Sweden. The apple is of the middle size, reddish, of a pleasant sweet and slightly acid taste, a combination which renders it the best apple for tarts and pies. They are however, subject to a black-spot, which increases with the growth of the fruit, and from its intense bitterness, requires to be taken out before the apples are prepared for stewing. The disease is called the "bitter rot." When first imported, the tree was called "Staaldeus," which may have been its Swedish name.

† Hints on Rural Economy, London, 1821.

"I have also," he says, "seen very great difference between the fruit of these trees, when one was grafted upon a paradise, and the other upon a codlin stock; for though the juices were so far changed by passing through the buds and pores of nonpareil branches, as to produce fruit alike in shape, yet their tastes were different, and somewhat resembled the taste of that fruit which the stocks would have naturally produced. The juices of the crab and codlin are known to be very acid, but the juice of the natural fruit of the paradise is sweet." He adds, "as most kinds of apricots when fully ripe, are rather too sweet and mealy, so when they are budded upon any kind of plum stocks which have that sort of juice, their fruit becomes more mealy and sweet than those which were budded upon stocks, whose juices were more acid."

5. Mr. Thomas A. Knight, President of the Horticultural Society of London, in a paper "on the effects of a different kinds of grafting," observes, that "the form and habit which a peach tree of any given variety is disposed to assume, he has found, to be very much influenced by the kind of stock upon which it is budded: if upon a plum or apricot stock, its stem will increase in size considerably as its base approaches the stock, and it will emit many lateral shoots: when on the contrary a peach is budded upon the stock of a cultivated variety of its own species, the stock and the budded stem remain very nearly of the same size, as well above as below the point of their junction. No obstacle is presented to the ascent or descent of the sap, which appears to ascend more abundantly to the summit of the tree." He also gives the following striking fact to demonstrate the influence of the stock upon the graft inserted in it. The "Moor Park Apricot" tree in his garden, as in many others, becomes in a few years diseased and debilitated, and generally exhibits in spaces near the head of its stock, lifeless albumen beneath a rough bark. Sixteen years ago a single plant of this variety was obtained by grafting upon an apricot stock, and the bark of this tree still retains a smooth and polished surface, and the whole tree presents a degree of health and vigor so different from any other tree of the same kind in his garden, that he has found it difficult to convince gardeners who have seen it, of its specific identity."

6. Mr. Thomas Torbton, gardener to the Countess of Bridgewater, says, that "choice sorts of pears by being grafted upon the quince, come several years sooner into bearing, and produce much better crops, than those upon the common, or free stock. He adds, that "the fruit will be in no respect inferior, and that he has had opportunities of seeing the superiority of the quince stock in three different counties in England."

7. Among the extracts given by Sir Joseph Banks, from French authors, in the appendix to the 1st vol. of the Transactions of the London Horticultural Society, it is stated, that "the Crassane pear may be improved, and all its harshness destroyed by grafting upon the Doyenne; and that the Reine Claude plum is much improved, by being grafted upon an apricot or peach stock."

8. Bradley says, that "since the Jordan almond had been grafted on plum stocks in England, they bore very well, whereas, in the time of Ray, they seldom produced ripe fruit. Canary almonds grafted on the plum, succeed well; while the seedlings of the same species, of five or six years' growth, appear all nipped and shrivelled."

9. The "Spitzenburg apple," which originated near Albany, in the State of New York, is one of the finest apples of the United States. When I was in New York a few years since, I was informed, that the fla-

vor of this apple is much influenced by the apple stock upon which it is grafted.

10. I have in some British publication read the fact, that a shaddock engrafted on a sweet orange stock, will become sweet, and that the orange grafted upon the pomegranate at Malta, gave fruit which was red inside. I regret that I am unable to give my authorities for these two last facts. I find them in my common-place book, and would not have put them there, had I not been well persuaded in my mind at the time, of the high credit due to the source whence I obtained them.

11. Dr. Darwin says, "it is not certainly known whether the ingrafted scion gives, or takes any property to, or from the tree (stock) which receives it, except that it acquires nourishment from it." He afterwards says, "there are no instances recorded, where a communication of juices from the graft to the stock, or from the stock to the graft, has raised the flavor, or the form of the flowers, or fruits of either of them. For though the same vegetable blood passes along both the upper and lower part of the caudex of the new scion, yet the molecules secreted from this blood are selected or formed by the different glands of the part of the caudex which was brought with the ingrafted scion, and of the part of it which remained on the stock, in the same manner as different kinds of secretions are produced from the same blood in animal bodies." This remark is made in Sect. xv. 4. "Of the Phytologia, or Philosophy of Agriculture and Gardening;" nevertheless, in Sect. v. 2, of the same valuable work, when treating of the circulation of the juices of plants, and after quoting the experiments of Fairchild and Lawrence, Dr. D. says, "I think I have myself observed in two pear trees about twenty years old, whose branches were much injured by canker, that by ingrafting hardier pear scions on their summits, they became healthier trees, which can only be explained from a better sanguification produced in the leaves of the new buds." It is also been observed by an ingenious lady, that though fruit trees ingrafted on various kinds of stocks are supposed to bear similar fruits, yet that this is not accurately so; as on some stocks she has known the ingrafted scions of apple trees to suffer considerable change for the worse, compared with the fruit of the parent tree. This fact which I deem highly important, and worthy of the greatest attention, is to be coupled with that above related on the authority of the American rural philosopher, Joseph Cooper, and with those in 5, 8, 9, 10. Dr. Darwin doubts the influence of the stock on the fruit or flower, or of the graft on the stock, because of the want of "recorded" cases in point, but he had forgotten that he had himself adduced two proofs of such influence, and had referred to two others.

12. In the second volume of the Transactions of the Horticultural Society, London, p. 41, Mr. Luttrell gives an account of several pears which were formerly cultivated; among these is the orange vert, or orange Bergamot. After describing it, he adds, "the true time to eat it, is whilst the color is upon the turn. The fruit collects most upon quince stocks." This is admitting the principle of the influence of the stock upon the fruit.

13. In the report of the Transactions of the Caledonian Horticultural Society, (May 1829.) Loudon's Mag. 5, p. 334, it is stated, that "the Society were put in possession by Capt. Smith of Dysart, of an interesting account of the effect of introducing buds of the Ganges apple into branches of the Russian transparent apple, by the ordinary process of inoculation: the Ganges apple produced from these buds having acquired the peculiar transparency which characterizes the fruit of the stock; an effect, it will be observed, that goes to overturn the received opinion, that the produce of the bud is in no respect affected by the qualities of the stock."

14. Mr. G. Lindley, mentions* among other plans,

* A Guide to the Orchard and Kitchen Garden, London, 1831, reviewed in Loudon's Gardener's Magazine,

* Treatise on Fruit Trees, 3d Edition, p. 46, Loudon, 1768.

† Vol. ii. p. 199.

‡ London Horticultural Transactions, vol. ii. p. 20.

§ Do do. do. vol. vii. p. 213.

|| On Gardening, vol. ii. p. 135.

to cause bad [fruit] bearers to be more prolific, the use of different stocks; and in his commentary on this position, he says, "in proportion as the scion and the stock approach each other closely in constitution, the less effect is produced by the latter; and on the contrary in proportion to the constitutional difference between the stock and the scion is the effect of the former important. Thus, when pears are grafted or budded on the wild species, apples on crabs, plums upon peaches, and peaches upon peaches and almonds, the scion is in regard to fertility, exactly in the same state as if it had not been grafted at all; while on the other hand, a great increase of fertility is the result of grafting pears upon quinces, peaches upon plums, apples upon white thorn, and the like. In the latter cases, the food absorbed from the earth by the root of the scion is communicated slowly and unwillingly to the scion; under no circumstances is the communication between the one and the other as free and perfect as if their natures had been more nearly the same; the sap is impeded in its ascent, and the proper juices are impeded in their descent; whence arises that accumulation of secretion which is sure to be attended by increased fertility."¹

15. I shall close this communication by a letter from Mr. Wm. Prince, of Flushing, Long Island, in confirmation of the principle for which I contend.

DR. MEASE: Flushing, March 18, 1830.

Dear Sir,—You request that I would inform you, if I have, from my own experience, ascertained whether the stock of a tree has any influence on the graft so as to affect the quality of the fruit? In my father's time, I had often heard this subject discussed, and was led firmly to believe that the stock had no influence or effect whatsoever on the fruit ingrafted on it, but that some sorts of seedlings grew much faster and made stronger growths than others, and of course gave greater vigor to the graft, but the fruit I supposed would be unchanged. You may judge therefore of my surprise, when I was all at once convinced and satisfied that I had been in an error. Having found that the worm which is so destructive to peach trees, would not touch the almond stock, and that the hard shelled almond raised from seed, do not like the original, produce handsome straight stocks, I had a row of young peach trees along the main walk budded to the almond at the surface of the ground, and when grown tall, budded again about five or six feet high to the old Newington clingstone, a fruit of a globular form. Passing by this row of trees two years after, when the fruit was ripe, I stopped to gather some, and to my astonishment, I found the fruit to be of an oval form; knowing I had budded them myself, from a bearing tree of the old Newington, and that the fruit now was oval when they should have been round, it struck me that perhaps the almond stock had caused the alteration; it occurred to me immediately, that there were some peach stocks in the same row where the almond buds had failed, and if there were fruit on them, and they retained their natural form, it would be a convincing proof of the almond stock having altered the form of the fruit. On examining the row, I found several stocks of peaches inoculated the same height as the almonds, with fruit on, which retained their usual round form, when all on the almond stocks were oval, and very much so, that the difference was so plain, you would have thought them a different fruit, but the color and flavor were the same. I went

immediately to my brother who lived then at a short distance and told him of it, but he could not think it possible till he went and saw it himself, and was then satisfied of the fact. I have been thus particular, that you may see I can have no doubt on my mind.

The New England Farmer, April 17th, 1829, in an article signed J. W. and dated at Weston, mentions respecting the effect of the stock on the graft, that a red apple becomes of a more brilliant red when grafted on a stock that produces red fruit; a green or yellow apple stock diminishes its beauty, and that he had seen scions taken from one tree and set in pale green and in red apple stocks, and that the apples they produced bore no resemblance to each other on these two trees.

The farmers on Long Island, in King's county, have been so well satisfied of the influence of the stock on the graft for some years past, that they procure stocks of the largest green apple to graft with the Newton pippin, so as to have large fair fruit. Life seems too short for experiments that require many years to bring them to perfection, as I observed above thirty years ago to Fisher Ames, who was very curious in fruit. I then stated to him what Mr. Knight is now bringing to perfection, that fruit like pig-ions, (as the pigeon fanciers say) should be bred to a feather by mixing the farinæ and planting the seed, then repeating the same on the new plant, but the time necessary to carry such experiments into effect was enough to discourage any one from attempting it. I shall however have some experiments tried to ascertain whether the old French method of grafting in and in, will change the form and flavor of fruits, for after what I saw myself as above stated, I am now convinced it will.*

I have now to state to you what I have never met with in any author, that the graft has an influence on the stock and root of the tree. The cherry tree when the thermometer in hard winter falls much below zero, is frequently killed by the severity of the frost. I had some years ago, 1821, a number of cherry trees killed, but the weeping cherry, a native of Siberia, although budded some height from the ground, remained uninjured; this led me more minutely to examine their roots, and I found invariably, that the roots of all the weeping cherries differed from the roots of other cherry trees, although the stock was the same; the roots of the trees grafted or budded with the weeping cherry being much fuller of fine spreading fibres, and rooting much stronger. Mentioning this fact to a man who keeps a small apple nursery in this place, and on whose veracity I could depend, he told me that the graft of the Siberian crab apple trees, although grafted two feet from the ground, affected the roots, and caused them to become so wiry and hard, and so full of these fine tough fibrous roots, and that they were very different from the roots of other apple trees.

I have now given you all the information I possess on this subject.

Yours, respectfully,

WM. PRINCE.

(From the Long-Island Star.)

ISABELLA GRAPE.

Brooklyn, Oct. 10, 1832.

It has become generally known among my friends and acquaintance, the last season I made a quantity of wine from the Isabella grape; in consequence of which I have had numerous applications within two or three weeks to furnish the receipt by which I made the wine. I have only refrained heretofore from publishing it from the knowledge of my own inexperience in the matter; and I would now refer inquirers to that excellent work of Mr. Aldum, of Georgetown, D. C. and also to the translation of a

* In France they formerly used to graft the same sort over and over again three or four times on the same stock.

French work of Thibaut De Berneaud, published by Mr. Canfield, of New York, where full information may be found on the cultivation of the vine, and the manufacture of wine.

I feel it a duty, however, to give a statement of my process last season, which was successful in yielding me fifty gallons of excellent wine, from a grape which is becoming very plentiful among us, and which I had not known to have been fairly tested as a wine grape.

1. I gathered the grapes when well ripe and dry, but did not exclude green and unripe grapes, nor pick them from the stems.

2. Crush and bruise them in any way without breaking the seed. If the skin of the grape is only broken, it is sufficient, as the pulp will dissolve during the first fermentation.

3. Put the must (or pomace) into an open cask or vessel, (which I shall call a vat) and stir it well during the first day, keeping it covered over the top with a cloth.

4. The must will rise in the vat for three or four days, and when it has ceased to rise, the liquor must be drawn from the bottom of the vat as long as it will run.

5. Press the must in any convenient way to extract the remainder of the juice.

6. Put it in a cask, which should be full in order that the impurities may flow over by fermentation at the bung.

7. Put two pounds of sugar to each gallon of liquor, unless you choose to risk the possibility of your wine becoming vinegar.

8. Fill up the cask as often as it sinks below the bung.

9. After it ferments eight or ten days put in the bung and leave a very small vent by the side of it.

10. After remaining about two months, rack it off into a clean sweet cask, well scented with a brimstone match, burnt within. If it is not fine and bright, it would be well to fine it with the whites of eggs beat up with sand.

11. In the month of March it should be again racked off into a cask or bottles, and placed away for use.

The wine is of a beautiful red color, and will at first appear sweet, but will gradually become sharper and still retain the delightful flavor, as well as odor of the grape. Mine has not yet attained a year in age, and I cannot tell what changes might be effected by time.

The Isabella grapes are very plenty this season; but by reason of the wet and cold, are much inferior in flavor to what they were last year, and are not yet perfectly ripe. In a few weeks I shall probably make a greater quantity of wine than last season; and as some of my neighbors are also attempting the same, I hope to be gratified in hereafter giving our experiments to the public.

ALDEN SPOONER.

CULTURE OF THE VINE.

MR. SMITH:

Burkleyville, Oct. 16th, 1832.

Sir,—Having intimated to you some time since, that when I found leisure, I might send for your disposal, an account of some experiments I have made in the cultivation of the vine, I accordingly transmit this.

In early life a farmer, and afterwards greatly injured in health by the sedentary life, necessary to a course of collegiate and professional education; and by medical advice, from a northern, located in a southern part of our country; about three years since, I purchased a small plantation, resolving to return to farming, my original employment, and with that to cultivate the vine. I was induced to undertake the cultivation of the vine, by the hope, that I might exert an influence to increase in our country, the pure, light, home-made wines, and thereby lessen the destructive effect of ardent spirit. My knowledge of

vol. vii. p. 581. I cannot permit this opportunity to pass without bearing my testimony in favor of this admirable miscellany, the circulation of which is immense in England and Europe. No gentleman who has the least taste for horticulture, ought to be without it. Seven volumes have been published.

* The Editor (John Lindley, the botanist) dissents from the opinion of his namesake, the practical gardener, and attributes the "improvement in the flavor of fruits," entirely to the increased action of the vital functions of the leaves. I shall adhere to facts.

rearing the vine was entirely theoretical. I had read considerable upon the subject, but had no experience.

The famous native of this state, the Scuppernong, had particularly attracted my attention. Late in the fall, of 1829, I set out, in the usual way, three hundred cuttings of the Scuppernong, besides a number of other kinds of vines. Early in the spring of the next year, a neighbour, who was a subscriber to "The American Farmer," showed me a number of that periodical, in which was a communication of Mr. Hermon, of Columbia, South Carolina, on the speedy manner of rearing the vine by grafting. Immediately I procured stocks of the Muscadine (Bullus here named,) and other kinds from the surrounding woods, and grafted upon them scions of the Scuppernong and others. And to try the suitability of different stocks to the several kind of vines, I grafted interchangeably, and in some cases different kinds upon the same stock.

My manner of grafting was that recommended for vines in the columns of the "American Farmer," viz. common cleft grafting, even with or below the surface of the ground. In some cases, I bored gimlet holes in the roots, and thus inserted the scion, which manner also succeeded. At first, I put a composition of clay before drawing earth around the scion, but have since discontinued this as useless.

A friend in Pennsylvania sent me about four hundred cuttings of vines, from a vineyard in that state. But through an unlooked for delay in their conveyance, they did not reach me till some time in the month of April. Of these last I succeeded in saving a few only of three kinds, viz. the Lisbon, Kobs-wine and Madeira. My Scuppernong cuttings generally budded with apparent vigor; but soon, when hot weather came on, withered and died; with the exception of two only, which by careful watering, and being in a place somewhat shady, grew off and are now flourishing, bearing vines.

Those I grafted of all sorts, generally succeeded. The common growth the first season about twelve feet; some upwards of twenty feet, and others under twelve.

With respect to the experiment of grafting interchangeably, and different kinds on the same stock, I mention as an instance of its success, that this fall I gathered Scuppernong and sweet water Madeira grapes from vines growing on the same stock of the common bunch grape; Scuppernongs from the stock of the Fox grape, and other different kinds from stocks of the Muscadine. But I have found, that the Scuppernong does best grafted upon the stock of the Muscadine; to which it is similar in its bark, leaf and texture of wood. As to the time of grafting, the spring appears to be most favourable. But I have flourishing vines grafted in the fall and winter. And I have experienced less trouble, and had more success in grafting upon stocks procured from the woods, than upon those standing, where desired, of natural growth, for the latter are more apt to send forth shoots, which, unless repeatedly pulled off, will destroy the growth of the graft.

Intending to add more in some future communication, I will conclude this by observing, that, from my own experience, and that of others which I know, the Scuppernong very rarely succeeds when attempted to be propagated by cuttings.

With great esteem, yours, &c.

SIDNEY WELLER.

Why are the turnip, the radish, and the cabbage considered very wholesome? Because of their high antiscorbutic powers, which depend upon a certain acrid volatile oily principle. This is particularly abundant in the seeds of mustard, and the roots of horse-radish; and in less degree in scurvy grass and the roots of the radish. Plants of this order are also believed to possess diuretic and diaphoretic properties; and they are always eatable when their texture is succulent and watery, as in the roots of the radish and turnip, and in the leaves of the cabbage tribe.—London.

RURAL ECONOMY.

(From the New York Farmer.)

REARING POULTRY IN MEXICO.

September, 1832.

Sir,—I cannot embark for Campeachy without relieving myself by telling you not a cock and bull, but a cock and chicken story, which may be of service to those farmers who supply our markets with poultry.

The fondness of Spaniards for eggs and chickens appears to be inherited to the full extent by their American descendants, as at every Indian but which I have stopped at in Mexico, I could get one or the other in default of every thing else in the eating line. It is true they are not very scrupulous about the number of feathers which covers the *pollito*, nor of the days it has been free from the shell, but then you know you can eat the more of them, and pay accordingly. But to return to my story. During the rainy season, the rivers of the state of Tabasco overflow the banks, and the little eminences become so many temporary islands, to which all terrestrial animals retreat for shelter. On these little mounds, too, the inhabitants place their huts, and it is fine sport to go hunting in a canoe from one islet to another all over the country. Monkeys, parrots, peccaries, snakes, in short, all animals of a tropical climate, may be found in the same congregation.

One afternoon, in the month of October, 1828, in company with the Vice-Governor of the state, I entered one of those huts aforesaid, to take some refreshment and rest, when I observed before the door a large cock with three or four dozen of chickens around him, engaged in all the occupations usually appertaining to the hen, and apparently very proud of his office. Neither man, woman, child, pig, nor hen would he suffer to molest his little ones in the slightest degree, and he would occasionally cock his eye up towards the birds of prey in the air with a menacing gesture, as much as to say "and you too had better keep at a respectful distance from my spurs." The following was the account of this phenomenon given me by my companion, Col. Estrada.

"The cock is chosen to hatch the eggs, on account of his superior size, and to take care of the chickens, on account of his superior strength, while the hen is thus left free to continue filling other nests. To qualify him to take her place, he is first rendered intoxicated by swinging him over and over in a hammock, under which tobacco is burnt to keep him enveloped in the smoke. As soon as he becomes senseless and motionless, the feathers are stripped from his broad breast, and he is placed in a large nest with as many eggs in it as his body can cover, in the position taken by the hen herself while hatching. When he recovers from the stupor, the pressure of the warm eggs against his naked breast, seems to occasion an agreeable sensation, which detains him on the nest the full period of incubation. Why he continues his care to the chickens after they escape from the shell, is best known to himself,—but you see the fact before you, and the practice of thus substituting the male for the female is general in this country."

Now, Mr. Editor, all I ask of you and your readers is to try before you deny the truth of this story.

HENRY PERRINE.

(From the Genesee Farmer.)

BEE MOTH.

Pittsford.

Various are the methods recommended to prevent the ravages of this destructive insect. Among others is that of raising the hive on blocks an inch from the board. I tried this method last summer, with one of my hives, and before I was aware, it was filled with thousands of worms, the structure of the comb destroyed, and the swarm ruined, while four other hives that I let stand in the usual way upon the board, were uninjured.

This method of prevention, I suspect is a theory unsupported by facts, and to be the worst policy that could be adopted. While the hive stands upon the board, the small entrance, about which the bees usually cluster, is easily defended; but when the hive is raised, you not only throw wide open the gates, but you destroy the very walls of the citadel, and the enemy has an easy conquest, for he chooses the place of attack.

The miller is a bold intruder, but still will not encounter a host at the mouth of the hive; but when the hive is raised, easily steals by the scattered sentinels, and enters the hive to deposit its eggs where it pleases.

The reasons assigned for raising the hive are, that the bees will dislodge the worms from the hive, and that they cannot crawl up again. Now it is strongly suspected that these reasons are not true,—that the bees never dislodge a worm from the comb,—and that if they were dislodged, they would make an easy return, after having found a place for ascent.

The bees fight the miller with great fury, and drive them from the hive as a deadly foe. I have mutilated them so as to prevent a ready escape, and cast them at the mouth of the hive, when they would be instantly attacked by half a dozen bees at once, who, after a furious struggle, would bear on their wings from their premises their vanquished enemy, and drop him where he would no more annoy them.

But I have repeatedly laid a worm at the mouth of the hive, when the bees would hardly take any notice of him or attack him, and would only crawl over him and around him.

The worm has a web attached to him in which the bees get their legs entangled, which frightens them from attack, and I strongly suspect never attempt to dislodge them from the hive.

Mr. Chandler, of South Hadley, a few years since published in the New England Farmer his method of preventing the ravages of this insect. Early in the spring he removed his hives from the benches, and placed them immediately upon the ground without a board, on a place made smooth for the purpose. He raised the ground a very little on the outside, to prevent a deposit of eggs under the edge of the board, and in this situation left them till late in autumn, when they were again replaced on the benches. This method he had pursued some eight or ten years, and had never been troubled with the moth except they got in before the hives were placed on the ground.

This at first seems to be an uninviting practice, and if it would prevent the moth, one is ready to fear that the bees would not work well, or that some other evil would attend the practice. I have tried it in a single instance. The bees worked as well as when elevated on a board, and when the hive was taken up in the autumn, it was well filled with the purest honey, without a vestige of the worm. I design to make a thorough trial of this method the next season. The grass and weeds should be kept away from the hives, and I am inclined to believe it would be an advantage to have them placed where dung hill fowls could go about the hives and pick off the millers, that lie during the day in a dormant state.

A part of my hives were this year placed where the fowls frequented, and I observed fewer millers about these than about my other hives, which were placed at a distance, and were elevated, where the fowls could have no access to them.

But from this limited experiment I would not be confident that any advantage attends it.

E. D. ANDREWS.

A LARGE EAR OF CORN.

A year of corn was plucked a few days ago from a field of Mr. David Justice, Jr., who lives ten or twelve miles north of this city, measuring 9 inches in length, 12½ inches in circumference, with 50 rows of grains around the cob, and 1321 grains on the whole ear.—Raleigh Star.

MISCELLANEOUS.

(From the New York Farmer.)

TO THE INTELLIGENT FRIENDS OF THE UNION.

October 4, 1832.

The great prosperity to be derived from the cultivation of a single species of exotic plants, *tea* shown by the old Southern states, in cotton; is exhibited by Louisiana, in sugar; and may soon be felt, in some other staple, by the whole confederation. Unlike manufactures, the products of agriculture possess the internal power of rapid reproduction in a wonderful geometrical progression. A single grain, which, in two years, would furnish only seed enough for a single field, in two years more, will afford a sufficient supply to plant a hundred thousand fields! One Cochineal insect alone, whose progeny, in one year, would occupy the leisure of only one rural labourer, in one year more will give abundant employment to the leisure of one million of rural labourers. In a limited time and space, this extraordinary multiplication is as certain in practice as it is astonishing in calculation; and hence the delay or advance of a single year in forming a nursery of supply for cultivators, must be of incalculable importance to an agricultural community. The introduction of valuable vegetables to the industry of the South, is a sure and speedy remedy for its existing distress. Its large capital and fertile soils may still be devoted to the production of the short fibres of the dry pods of its annual gossypiums, while its small capitals and sterile districts may be transferred to the cultivation of the long fibres of the fresh leaves of the perennial agaves; and the resulting henequen and pita, as superior substitutes for the hemp and flax of northern climates, will become harmonious associates with cotton, its ancient and principal staple. With the fibres of one exotic vegetable, our Southern states have hitherto furnished a material for the clothing of a great proportion of the human race; and with the fibres of other exotic vegetables, they may hereafter supply the materials for thread, twine, and cordage, cambric and canvass, and diversified manufactures, to a great majority of the civilized world.

Besides the foreign plants, which are principally valuable on account of the quantity or quality of their fibres, there are thousands whose varied productions are still more profitable in proportion to the capital employed, which may be transferred from South America, Africa, and Asia, to our southern shores, and once within the range of American enterprise, industry, intelligence, and ingenuity will become converted into mines of vegetable wealth, of which their barbarous native countries have never even dreamed. By the cultivation of the Cactus Cochinitifer alone, the labour of merely the feeble in sex or age, at the south, may divert from Mexico its millions of monopoly in Cochineal.

The foregoing considerations demand the immediate establishment of a nursery of tropical plants, at or near Cape Florida.

The climates of the Northern and Southern halves of the Peninsula of Florida, are different in kind or distinct in character. Above twenty-eight degrees, it possesses the *improved* climate of our Southern states, and below that parallel it enjoys the *improved* climate of the West Indies. St. Augustine resembles Charleston and New Orleans, in the humidity of its winter and the transitions of its temperature. Cape Florida resembles Matanzas and Campeche, in the dryness of its winter and the uniformity of its temperature. The Southern half of Florida has also the perpetual trade wind, the daily sea and nightly land breeze, and the rainy summer of the islands of Cuba, Hayti, Jamaica, and Puerto Rico, and of the whole Peninsula of Yucatan. Hence it combines all the phenomena of a tropical climate, viz. a constant aerial current to the west; an alternate land and sea breeze; a delicious dry, and a refreshing wet season;

and a great uniformity of temperature throughout the year. But Tropical Florida, as it may now be called, must be blessed with a still greater equality of temperature than either the islands of the West Indies or the Peninsula of Yucatan. It has not the elevated mountains of the former to chill and charge its atmosphere with thunder, lightning, storm, and rain; it has not even the *wide* surface of the latter to cool the air so greatly by night, or to heat it as greatly by day. But, above all, its happy equilibrium must be sustained by a friend peculiarly its own—the great Gulf Stream, which cherishes the shores it embraces with the heat which it brings from the Equatorial seas. The perpetual trade wind, in its passage across this warm river of the ocean, inhibits its equalizing temperature, and steadily distributes it, in travelling westwardly, over the whole surface of tropical Florida.

The whole extent, then, of Southern Florida must present unparalleled advantages for vegetable cultivation and for animal enjoyment. By analogy with Yucatan, its atmosphere should become proverbial for healthiness. Consumption, which annually destroys fifteen per cent, of the population between Boston and New Orleans, should at least be as rare a disease as it is in Campeche, where it is shunned as a virulent contagion; and the thousands of sufferers, who are sent in its incipient stages to perish amid the sudden transitions of the south of Europe, may hereafter change their voyage to recover in the equable temperature of the south of Florida.

The eastern shore, however, possesses some advantages for a settlement which are not common to the western side. The trade wind arrives at it with the steady warmth of the Gulf Stream, and the pure freshness of the ocean which may be somewhat disturbed in its course across the interior by the variations and exhalations of the soil; and vessels bound to it will not be exposed to that delay in time, or those dangers in navigation, which necessarily attend a voyage round Cape Sable. But especially in reference to the location of the first nursery in Florida, the circumstance most essential to its success, will be found in speed and safety of communication with the great commercial emporium of the north; as nine-tenths of the valuable exotics of the world can be obtained more easily and cheaply, via New-York, than in any other way.

You are respectfully referred to document, No. 198, and report No. 454, of the last session of Congress, containing a letter from the Secretary of the Treasury, and a report from the Committee on Agriculture, for an outline of the past services and future plans of the subscriber, to accomplish the important enterprise of domesticating tropical plants in the United States. You will thence perceive that his hopes of ultimate success are founded on an act of the Legislative Council of Florida, incorporating, restrictively, a Tropical Plant Company, and on a bill of the national House of Representatives, granting, conditionally, a township of land; and that, consequently, if the Company should finally be organized, and the bill become a law, one or two years must subsequently elapse before any available funds can probably be obtained from either measure, or both combined. Nevertheless, during the ensuing winter and spring, the subscriber shall be employed in collecting the valuable vegetables of Yucatan and Tabasco, with the *hope* of transplanting them in Florida about the beginning of the permanent rains in May, and of thus commencing a perpetual depot for the continued reception of superior species of all celebrated plants of the torrid zone. To realize this hope, an intervening accumulation of funds is essential for the transportation of a cargo of living plants, for the preparation of the soil to contain them, and for the maintenance of a family to attend them in the unsettled vicinity of Cape Florida.—This obstacle once overcome, he will insure the rapid growth of a systematic garden of improved exotics, in which scientific arrangement and even picturesque

beauty shall be blended with PRACTICAL UTILITY—the grand end and aim of his persevering ambition. Believing, then, that the astonishing importance of a single year, in the geometrical progression of a *Distributing Nursery*, will justify the trial of every honorable means to hasten the period of its formation, this hurried address is, therefore, respectfully submitted to the patriotic friends of the *speedy domestication of tropical plants*, with the humble expectation that it may excite a *subscription loan* for that purpose. The Hon. J. M. White, the delegate from Florida, in Congress, at Washington City, will take charge of all sums that may be thus advanced towards the contemplated nursery, and will return a receipt for the same to each subscriber, which will entitle him to an equivalent in plants or stock.

HENRY PERRINE,
Consul, U. S. A. at Campeachy.

We recommend the preceding circular to the effective consideration of every liberal mind. The friends of domestic industry must remember, that by the late tariff, the enterprise is deprived even of that protection which was incident to a revenue duty on tropical productions. The members of our Horticultural Societies must see in this contemplated Nursery of Dr. Perrine, the National Botanic Garden which they have so long desired in the south. The proprietors of green and hothouses must consider it as the speediest and cheapest means of filling them with rare and beautiful exotics. And every patriot must regard its immediate establishment as important in relation to the peace and prosperity of a now agitated community. We therefore sincerely hope, that every "intelligent friend of the Union" will speedily and cheerfully contribute his mite towards the formation of this Nursery of Tropical Plants in Tropical Florida.

Editor of the Farmer.

ONE THOUSAND DOLLARS will be paid by the subscriber for an *invention* to separate from the *fresh leaves* of the agaves, those *fibres* which are called *Sisal* hemp, by a machine which will save as much labor as Whitney's gin, in separating the seeds from cotton.

H. PERRINE.

(From the Genesee Farmer.)

VEGETATION.

The celebrated Dr. John Mason Good, when writing on the different stimulants contained in the atmosphere which are beneficial to vegetation, says, "Ammonia is a good stimulus, but oxygen possesses far superior powers, and hence without some portion of oxygen few plants can ever be made to germinate.—Hence, too, the use of cow dung and other animal rements, which consist of muriatic acid and ammonia: while in fat, oil, and other fluids, that contain little or no oxygen, and consist altogether, or nearly so, of hydrogen and carbon, seeds may be confined for ages without exhibiting any germination whatever. And hence, again, the fact deserves to be extensively known, however torpid a seed may be, and destitute of all power to vegetate in any other substance, if steeped in a diluted solution of oxygenated muriatic acid, at a temperature of about 40° or 48° of Fahrenheit, provided it still possess its principle of vitality, it will germinate in a few hours. And if, after this, it be planted as it ought to be, in its appropriate soil, it will grow with as much speed and vigor as if it had evinced no torpidity whatever."

In the latter part of 1826, I received several packets of seeds which had come from the Cape of Good Hope and New South Wales, with part of which I made several efforts on various plans to cause their vegetation, but I was invariably unsuccessful. The residue by chance were put in my trunks, and there remained until the fall of 1828, when I first read Dr. Good's method. I immediately made the experiment, and with the greater part I was perfectly successful.

ALEXANDER GORDON.

LINNEAN BOTANICAL GARDEN AND NURSERIES, FLUSHING, NEAR NEW YORK.

WILLIAM PRINCE & SONS, proprietors, have just issued their new Catalogue of Trees, Shrubs, and Plants, which may be had on application to the Subscriber, their agent.

These Catalogues exhibit two facts, very gratifying to persons wanting the productions of their splendid gardens, viz: a great extension and improvement of the collection in both kind and quality; and a considerable reduction of former prices, especially those of Camellias and other Greenhouse plants. The rule of "first come, first served," may be modified when applied to Gardens thus "first come best served." Persons intending to supply themselves with Trees, Shrubs, or Plants, would consult their own interest by forwarding their orders to this agency, without delay; and they may depend implicitly on being supplied with genuine and excellent articles packed in the best manner and forwarded with care and promptness to any part of the United States. Prince's Treatise on the Vine, Treatise on Horticulture, and Pomological Manual, are also for sale by the subscriber, who keeps constantly an extensive assortment of GARDEN AND FIELD SEEDS of the very best quality, which he will sell Wholesale and Retail at fair prices, at the American Farmer Office and Seed Store, No. 16 South Calvert-st. Baltimore.

I. I. HITCHCOCK.

AGRICULTURAL IMPLEMENTS, &c.

SINCLAIR & MOORE, Pratt street wharf, have on hand a general assortment of articles in the agricultural line. It is their determination in order to devote more of their time to the improvement and careful manufacture of implements, and the production of the best articles in their line, to confine their sales to cash, or for acceptances in town; with a few exceptions where arrangements equally convenient are made for selling by wholesale.

NOW ON HAND, [price.]
Sinclair and Moore's improved seed plough 1 inch \$4.50
Do do other sizes, wrought and cast, 5 to 13 3.50
Barshear ploughs, with and without coulters, 5.50 to 13
McCormick's patent wrought and cast, 5.00 to 14.00
Self-sharpening, moveable points, 5.50 to 11.50
Wood's patent, with cast shears, 5.00 to 10.00
Hillside ploughs, 10.00
Double mold board ploughs, 7.00 to 9.00
Wheat fans, improved and common, 19.00 to 25.00
Straw cutters, cylindrical, \$27, 45, 50 and 65
Do do common Dutch, 5.00 to 7.50
Corn shellers, 20.00
Thrashing machines, warranted to thrash from 150 to 200 bushels per day, and do clean work, \$75 to 90
Horse powers, 75 to 90
Cast-steel axes by the dozen or single one; steel Hay and Manure forks, together with a variety of other implements and tools, Wire wire, Sereous, &c.

GARDEN SEEDS.—A general assortment by wholesale and retail, warranted good. Their supply of seeds of the present year's growth is now coming in, and in a few days most of the articles in the seed line will be ready for sale.—

FRUIT TREES, &c.—The season for transplanting fruit trees being nearly at hand, we invite those who intend to plant to send in their orders early, which will give the best opportunity of filling them to satisfaction. Trees will be carefully packed so as to carry safely, for which reasonable charges will be made. The nursery contains—

Apple, Peach, Plum, Pear, Cherry, Apricots (a part on plumb stocks) English Elms, large size, white Italian Mulberry, large size, valuable for silk and ornament at \$10 per hundred.

Paper Mulberry from India, handsome shade tree, Chinese Alanthus or Tree of Heaven

Silver leaved Poplar, silver leaved Maple

Linden tree, Catalpa or Catawba, large size

Horse Chestnut, English White Walnut, Butternut

Black Walnut, Judas Tree, White Ash

Balsam Fir, Weymouth Pine, Black Spruce

Arbutovite, Yellow Locust. Weeping and Yellow Willow, Basket Osiers of 4 kinds, Pride of India

Prickley Ash, rooted Box Dwarf

50 kinds of Rose Bushes, among which the much

admired Greville Rose; 6 varieties of Double Althea; 7 do Lilac; 3 do Jessamine; 7 do Honeysuckle; 2 do Snowball; 10 do Chrysanthemum. For flower roots and many other articles see Nursery Catalogue.
100,000 large Yearling plants of the Washington Thoria

30,000 Asparagus roots, one and two years old

A liberal deduction from Catalogue prices will be made on the last two articles if 5 or 10 thousand are taken.

Rooted Grape plants, one and two years old, mostly of the Catawba, Isabella, Constantia, Bland, Herbe-mont's Medera, White Sweet Water, Golden Chasselas and Lenoir or Red Wine Grape. We have many other kinds, but which do not stand our climate so well as the above enumerated kinds. Cuttings can be supplied of these kinds; Quince trees, large English Gooseberry, fine plants; Currants, best kinds; Strawberry, strong plants, raised for sale; Horse Radish roots, Hop roots, Dyers' Madder roots

Oct 26

DEVON CATTLE, &c. FOR SALE.

For Public Sale, at the Three Ton Tavern, in Pratt Street, on Saturday the 3d day of November, at twelve o'clock, a choice collection of Devon Cattle, also, Horses, Asses, and Rams of the Bakewell and Southdown breeds, viz:

Fifteen Cows of the full blooded Devon, from Mr. Coke's breed, of Ilkham, in Great Britain.

Four Bulls of the same breed.

Twenty-five Heifers and Calves of the same breed.

The stud horse Hickory, five years old, of the blood of the imported horse Exile, from a mare got by the horse Hickory. This breed of horses unites the qualities of action, strength, and docility more than any other known breed.

Sundry Horses and Colts—And Rams.

A Jack of the breed of the Knight of Malta, and of the Royal Gift, five years old, and a good foal getter—his sire cost \$500.

Two Jeannies of the same blood,—five years and three years old.

The terms of sale are, cash for any sum under \$100; and six months' credit for sums above \$100, with satisfactory security.

ts

Sep. 28.

AGRICULTURAL IMPLEMENTS AND FRESH GARDEN SEEDS.

The subscriber offers at his store and manufactory, No. 36 Pratt street, between Hanover and Charles streets, a great variety of AGRICULTURAL IMPLEMENTS, consisting of his Patent Cylindrical STRAW CUTTERS; Gideon Davis' Patent PLOUGHS, with cast and wrought shares, and Castings for the same to supply those worn out; Substratum and Shovel Ploughs; Harrows; Robbin's Patent Corn Planter; Corn Cultivators; Corn Shellers; Wheat Fans; Wire Saws, Hay and Manure Forks, by the single or dozen; Grass and Grain Seythes; Grain Cradles; Hay Rakes, Mattoes; Picks and Grabbing Hoes; Weeding and Billing Hoes. A variety of Garden and Horticultural TOOLS, &c. &c. Those articles manufactured by himself special pains have been taken to procure the best materials and to have the work executed in the best manner.

Also, a great variety of GARDEN SEEDS, both European and American, and all of last year's growth, embracing a great variety of Beans, Cabbages, Radishes, late Peas, Bone Seed, &c. &c. And the following FIELD SEEDS, viz: Tall Meadow Out Grass; Lucerne, of Prime Quality; Mangie Wurtzel, Italia Baga; Large Yellow Pumpkin, by the quart or bushel; and White Italian Mulberry SEED, of prime quality.

Just received from Europe a supply of Fresh LUCERNE Seed of prime quality, which will be sold at market price; and also a quantity of White Italian Mulberry Seed fresh and of fine quality, at 50 cents per ounce.

J. S. EASTMAN.

GARDENING.

Wants a situation as Gardener, a person who understands the business in all its various departments, viz. the care of Hot-house, Green-house, Forcing, and Cold Frames, Kitchen Garden, &c. also, the culture of the Vine, and laying out new Gardens, Lawns, and Pleasure Grounds, on the latest and most approved plans.

Satisfactory references can be given by application at the office of the American Farmer and Seed Store.

Oct. 19.

14 June

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—Our quotations of flour to-day must be considered nominal, as it is considered very certain that the present prices will decline. We could not ascertain any regular price of Howard street flour from wagons, but it is expected the rates will be established to-day; the last price we heard of was \$5.87½. Corn has advanced in consequence of scarcity.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 25.00.—Virginia, 4.50 a 8.00.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.00 a 4.00.—The inspections of the week comprise 390 hhds. Md; 12; hhds. Ohio; 6 hhds. Ken; and 3 hhds. Penn.—total 411 hhds.

FLOUR—best white wheat family, \$6.75 a 7.25; super Howard-street, 6.00 a 6.50; city mills, 5.62½ a 5.75; city mills extra 5.87½ a 6.00;—CORN MEAL bbl. 3 50; GRAIN, best wheat, 1.10 a 1.12½; white do 1.15 a 1.25;—CORN, white, 80 a 85; yellow 80 a 85; RYE, 65 a 68 —OATS, 36 a 37;—BEANS, 75 a 80—PEAS, 65 a 70 —CLOVER-SEED —a —TIMOTHY —a —a —ORCHARD GRASS 2.00 a 2.25—Tall Meadow Out Grass 2.00 a 2.50—Herd's, 75 a 87½—Lucerne —a 37½ lb.—BARLEY, FLAX-SEED 1.50 a 1.62—Cotton, Va. 5a104—Louv. 9 a 15—Alab. 8 a 11½—Tenn. 8 a 11.—N. Car. 8 a 10—Upland 8 a 11½—Whisker, hhds. 1st p. 32 a 34; in bbls. 33 a 34—WOOL, Washed, Prime or Saxony Fleece 45 a 50; American Full Blood, 38 a 43; three quarters do 33 a 38; half do 30 a 33; quarter do 28 a 30; common 25 a 28. Unwashed, Prime or Saxony Fleece, 25 a 30; American Full Blood, 22 a 25; three quarters do 20 a 22; half do 18 a 20; quarter do 16 a 18; common, 16 a 18—Hemp, Russia, Ton, \$210 a 225; Count, dew-rotted, —a 7c. lb. water-rotted, 7a 8c.—Feathers, 37 a 39; Plaster Paris, per ton —a 4.37½, ground, 1.50 a 1 lb. Iron, gray pig for foundries per ton 33.00 a 35; high pig for forges, per ton 28.00 a 30.00; bar Sus. per ton 25.00 a 25.00.—Prime Beef on the hoof, 5 00 a 5.50.—Oak wood, 3.37 a 3.75; Hickory, 4.50 a 5.00; Pine, 2.25 a 2.75.

CONTENTS OF THIS NUMBER.

Editorial; Native Grapes; New Food for Hogs; Establishment of a Horticultural Society proposed; Large Potatoes; Large Egg Plant—On the Culture of Rice; Preparation of the Land—Rules for Housing and Preserving Sweet Potatoes—Prangos Hay Plant—Reclaimed Marshes—On the Reciprocal Influence of the Stock and the Graft, by James Mease, M. D.; Letter from William Prince—Isabella Grape, Process of Making into Wine—Sidney Weller on the Cultivation of the Vine; Advantages of Grafts over Cuttings—Henry Perrine on Rearing Poultry in Mexico; Curious Method of Hatching the Eggs—On the Destruction of the Beeth—Large Ear of Corn—Address of Henry Perrine, United States Consul at Campechy, to the Intelligent Friends of the Union, on the Importance and Advantage of Cultivating Exotic Plants; Premium offered—Advertisements—Prices Current of Country Produce in the Baltimore Market.

Special Agents for the American Farmer.

The following persons are authorized to act as Agents for the American Farmer in their several places of residence:

Boston, John B. Russell, N. E. Farmer Office.
New York, D. B. C. Landreth, 85 Chestnut street.
Philadelphia, D. B. Freymuth, Marble Court.
Washington, D. C. F. Thompson.
St. Louis, Mo. J. C. Coleman.
Petersburg, Va. Joseph Gales & Son.
Raleigh, N. C. F. Thornton, Post Master.
Camden, S. C. Wm. Neum.
New Orleans, Eichenbaum & Norvell.
Nashville, Tenn. Frederick Staunton.
Natchez, Miss. Passmore Howell.
Port Gibson, Miss. H. H. Elwell.
Salem, N. J. General Agent for the State of Maryland, T. B. Brenan.

FOR DIRECTION OF LETTERS.—Address all BUSINESS letters concerning the Farmer, the store, or the agency, to the proprietor, "I. Irvine Hitchcock, Baltimore, Md."

Printed by J. D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, NOVEMBER 2, 1832.

AMERICAN SILK.—We cannot resist the temptation, (presented by a recent visit from Mr. Rapp,) to recur to the subject of the culture of silk in the United States. Many obstacles have been thrown in the way, and retarded the progress of this interesting branch of industry in this country; and none have been so effectual and caused so much injury as the various publications setting forth the extreme difficulty of the process of filature, or reeling from the cocoons. Whatever the real object of these publications may have been, it is certain that their effect has been, throughout the country, very disadvantageous to the progress of the silk culture, by causing hindrance to abandon all idea of commencing it in consequence of these pretended difficulties. For seven years we have met and combated these publications, adducing our own experience and that of many other individuals as proof of their incorrectness. We have stated over and over again, that the whole process of making raw silk, from the egg to the reeling of the cocoons inclusive, was so simple, that any child of ten years of age, and of common intelligence, might acquire it in a very short time. In this assertion we were supported by the evidence of our own senses, as well as by that of every one who had given the subject a fair trial. But the public at large was backward in proceeding upon this testimony, and the business has languished or made very slow progress. A few persons, however, have entered into it with spirit and perseverance, and have proved, and are annually affording practical demonstration of the correctness of our views. Among these and the most conspicuous is Mr. Rapp, of Economy, in Pennsylvania. He introduced the culture of silk into the establishment of the Society at that place, of which he is the head, about five years ago; and for three years past large quantities of silk stuffs have been produced there—such as vesting, handkerchiefs, and other broad goods, sewing silk, &c. We have heretofore mentioned that we were wearing a vest and handkerchief the material of which was spun, reeled, thrown, dyed, woven and finished, at Economy, and that several hundreds of them were made at the same time. In our conversation with Mr. Rapp, at his present visit, the subject was recurring to. We asked him how he came on with the silk business.—His reply was, “very well.” Do you yet find any of those difficulties in the way of reeling silk, of which so much has been said and published, we asked.—“No,” was his reply; “we find no difficulty whatever in the process.” Do you find it sufficiently profitable to make it an object of considerable attention, we inquired. “Certainly,” he replied, “or we should not pursue it.” Do you intend to extend your operations, we continued. “Yes,” said he, “as fast and as far as possible.” These answers are probably not exactly his words, but they convey the substance of them; and in illustration of their several imports, he made various remarks which furnish incontestible evidence of their correctness, some of which were in substance, that none of his people knew any thing of silk reeling, or any other part of the business, till it was introduced there a few years ago, but they readily acquired the art by a little practice, without any other instruction than that afforded by publications in the American Farmer and other works; that they very easily prepare the silk for the loom; that there is no difficulty in preparing raw silk for market, but that they find it far more profitable to manufacture it at home; that they have two looms of an improved construction now steadily at work; that these looms (or at least their improvement) are of their own construction; that they are making preparation for a considerable extension of this branch of their business, and for this purpose are enlarging their plantation of

mulberry trees; that he has just obtained a considerable quantity of the new Chinese mulberry, (*Morus multicaulis*) for planting out, &c. &c.

Now here is proof, surely, of the practicability and profitability of the culture of silk in the United States. But it is nothing more than has been written and published time and again. Why then, let us ask, is not the culture of silk entered into more generally? Is not the seven to ten millions of dollars annually sent out of the country for silk in its various forms, worth saving? Is the cotton and tobacco culture so lucrative, that no other object can be permitted to interfere with it? Are bread stuffs, grazing, and some other principal objects of agricultural attention, sufficiently profitable to exclude all new articles? If not, we ask again, why is it that the culture of silk is not attempted except in a very few instances? We anticipate the ready answer, that “it is extremely difficult,” to use a homely phrase, “to learn old dogs new tricks;” to exchange our usual employment for one we are unacquainted with. And so it is to those who think so; but to those who are disposed to make a little exertion to better their condition, such difficulties are mere cobwebs in their way. How long is it since the whole face of agriculture in the south was suddenly changed, by the introduction of the culture of cotton? How long is it since the agriculturists of the New England states were changed to manufacturers? How long will it be before the old fields of the middle and southern states will be converted into mulberry orchards; the young and infirm population into silk culturists; and the United States into an exporter instead of an importer of silk? We answer, not twenty years.

NATIVE SILKWORMS.—A much respected correspondent in Virginia, informs us, that a few days ago he found two Silkworms crawling from beneath the wooden steps of his door. They were near the size of the tobacco worm, of a pea green color, with rows of brilliant red spots on the back, sides streaked. The red spots changed to bright yellow before they began to spin. From this description we should judge the worms were the larvæ, of what is commonly called the *Luna*, (a large and beautiful moth; they produce cocoons of a coarse drab colored silk. The worms spun cocoons, and our correspondent thinks it not at all improbable that, if they had been fed with the proper food, the silk would have been as fine as that of any other worm. The want of proper food, however, does not make the common silkworms spin coarse silk, but has the contrary effect. The fibre spun by worms stunted in their food is exceedingly fine; so much so that we have seen cocoons spun by worms thus starved, not larger than wren's eggs, and the fibre so attenuated, that it could not be reeled without extreme difficulty.

Our correspondent politely offers to send us the cocoons of the worms above noticed, and we shall take all possible pains to breed from them. We have long thought that a valuable kind of silkworm might be obtained from some of our native insects.

Our correspondent says that in 1801, in a family in Albemarle County, Virginia, the young ladies raised silk enough to make all their own stockings and gloves, and frequently vests for their brothers. The young folks used to sit up late many a winter's night winding the cocoons out of a noggin of hot water. The required number of cocoons were put into the water, and on being stirred round with a splinter from a fence rail, the ends of the fibres would adhere to the splinter, and then the operation went on smoothly. This is the true method of reeling silk, in miniature, and affords another proof of the simplicity of the operation. He says he thinks he cannot be mistaken in his recollection of the worm, and that it was a large black hairy worm. The cocoons were white and yellow, but larger than those of the worms now raised, that the silk was quite as fine, and that the food they were fed on was the common mulberry.

We suspect our respected correspondent is in error as to the worms being hairy, and as to the size of the cocoons, as the fact that they fed on the mulberry identifies them as some one of the several varieties of silkworms now raised, for we are not aware of any other worm of this kind feeding on that food. Our correspondent, however, can very easily obtain information from Albemarle, and we should be greatly obliged to him for a more particular history of those worms, as well as of the extent of the domestic silk culture in that part of Virginia at the time to which he refers.

AMERICAN WINE.

Economy Township, Pa. 1
October 13, 1832. §

Mr. Smith:

Sir,—Permit me to make you an observation; the Americans use, in making their domestic wines, a very improper means, of letting the juice undergo the vinous fermentation by itself and adding then sugar or molasses to produce a second fermentation. This proceeding is entirely wrong; because by this second fermentation a part of the alcohol produced at first is lost by dissipation, and the remaining liquid converted into vinegar, which renders the wine (if it can be called so) of disagreeable taste, and renders it unwholesome. I am, respectfully,

C. EHREMAN.

(From the Barnstable Journal.)

DURABLE FENCE.

Deacon Winslow Marston, has on his farm a kind of fence, which for durability and beauty can hardly be exceeded. On each side of the road adjacent his dwelling, are rows of large button-wood trees, set ten or twelve feet asunder. Into these, when young, cedar rails were inserted as into common posts. As the trees increased in size, the wood formed closely around the ends of the rails, and firmly secured them in their places. We have no where else seen this experiment tried on so large a scale. It is certainly a durable and cheap fence, because it will require no repairs at least for one generation, and is moreover constantly increasing in value. Were our roads lined with this kind of fence, it would add not a little to the beauty of the country and the comfort of the traveller.

(From the New York Gazette.)

FILTERING STONES.

We have now in use, one of the filtering stones, recently imported from Port Mahon, and through it is constantly passing rain-water from our cistern, which is rendered as pure in color and taste as any spring water, and none so wholesome. We use it on our table, in our chambers, &c. one of them affording enough for all family purposes. These stones may be had of the Messrs. Morton's, 153 Maiden Lane.

FOREIGN MARKETS.

HAVRE MARKET, Sept. 19.

From the English review, including ten days, condensed for the Journal of Commerce.—Ashes without alteration. Beeswax light stock and light demand. Coffee, sales 4645 bags, 40 hds. &c. viz. 2845 Hayti at 82½ a 85c. per c; 150 Cuba 914; 600 Rio 774, &c.; stock 9180 bags. Prices of foreign wheat have been better supported; 870 bbls. Richmond flour sold at 33½; 220 do. sour 20½ a 22½ free. Cotton, demand extensive and an advance of 1 a 2c on some 'caprice' lots of Louisiana, sales 3597 bales Orleans 90 a 115c. chiefly 96 a 100c; 3140 Upland Mobile, &c. at 82½ a 101; total sales 7962 bales; import 5633 bales; stock 38371 bales. Exchange on London 1 mo. 23½ 80. Hamburg 186 Mexican-dollars, 3½ 49; American half eagles, 27½ 50.

Sales, Sept. 19—200 bales Louisiana Cotton at 94, 100 and 105½; 64 do. Georgia 91 a 94c. 300 bags Hayti Coffee at 85c—57 brls. Potash, 1st sort Am. at 39½ 50.

AGRICULTURE.

[We republish the following excellent article on the use of calcareous manures, from the 8th volume of the Farmer, at the suggestion of a friend, and upon consideration that hundreds of our present subscribers were not then in the receipt of the Farmer. The article is very valuable, and will be read with interest even by those to whom it is not new.]

(From the Winchester Republican.)

ON LIME AS A MANURE.

Agricultural Society of the Valley.—May 29, 1826.

A letter from Wm. B. Page, Esq. enclosing a communication from E. Ruffin, Esq. was received, and the communication from Mr. Ruffin ordered to be printed.

Coggin's Point, Oct. 20, 1825.

Dear Sir,—Your letter reached me only a few days before the commencement of a long journey, which has prevented my attending to your request until this time. I shall now endeavor to answer your inquiries as fully as my limited means will permit; though I cannot expect to furnish any thing of more value than loose hints, which perhaps may serve as subjects for a Frederick farmer to think about, but not as rules to direct his practice.

It should be observed, that though I have applied mild lime to more than 500 acres, scarcely any use has been made by me of caustic or quick lime; and therefore I have no practical knowledge of its peculiar solvent power. According to the theory of Davy, while lime continues caustic it acts powerfully on all animal and vegetable matters in contact with it—breaking down and rotting whatever is hard, insoluble and inert—and driving off or destroying whatever is already rotten or fit for the immediate use of growing plants. Hence, we may infer that the mere causticity of lime will be serviceable or hurtful, according to the state of the vegetable ingredients of the soil. But as usually applied, quick lime becomes as mild as before burning, by again absorbing carbonic acid from the atmosphere, before its solvent power can be exerted.—Nor do I think this power can safely be used on our climate, except in very few cases; as on broomstraw old fields, or newly cleared poor woodland, which contain much inert, and but little active or soluble vegetable matter. Under our hot summers, vegetable manures rot too fast, and the cultivator should endeavor to retard, rather than hasten their decomposition. But a different practice may be proper in colder climates. Frequent applications of caustic lime must be highly useful in Scotland, for example, where vegetable matters, unrotted and insoluble, have continued to accumulate and extend, until one-sixth of that country is covered with barren peat.

It follows then, that however powerful may be the effects of caustic lime, they must be considered as separate and distinct from the derable and far more valuable effects of mild lime, or calcareous manures in general. The same substance, (quick lime) will at different periods, act as two kinds of manure, entirely different in their modes of operation—and on the other hand, many substances having different names, (as old burnt lime, chalk, shells, limestone, leached ashes, and marl,) all have different proportions of the same calcareous ingredient, and ought to be considered as the same manure. Yet most writers class these manures under different heads, without knowing the sameness of their predominating qualities; and many absurd practices owe their origin and continuance to the same error in our practical men. Thus the industrious farmers of Long Island have long used as a manure, leached ashes, brought hundreds of miles by water: they have even sometimes stripped the soap factories in Petersburg, paying five or eight cents the bushel, besides the expense of so long a transportation. Yet whatever benefit was ob-

tained from this manure, they might have found as well in the fossil shells which I believe lie beneath the surface of all Long Island, and which even if carried the same distance, might be applied at less than half the cost of an equal value of ashes. Your remarks shew that we agree in this view—and that you correctly consider our calcareous manures as substantially the same, though your practice may be confined to calcined limestone, as mine has been to fossil shells.

I now proceed to answer your particular inquiries. You ask my "opinion as to the utility of lime as a manure in general; to what crops and in what mode it is most advantageously applied; and whether there is reason to believe that it would be adapted to limestone soil like ours, originally rich, but in many places much worn by cultivation?" I never was in Frederick, and know but little of its soils, except that they generally differ from those on which my practice has been tried, and with which I am best acquainted.—Your own judgment can best determine when any practice which may be profitable here, will also be advisable in your situation; and for that purpose, it will be necessary for me to state concisely my view of the means by which lime acts, and the different effects produced, referring you for the reasons on which they rest to my essay in vol. 3, American Farmer.

The principal action of both sand and clay, is mechanical, and therefore large proportions are required to produce perceptible effects as manures. But from the presence or absence of a very small proportion of lime in soils, important results are produced, because in common cases, lime acts chemically, and not mechanically. Clay has but little power, and sand none, in holding vegetable or animal manures: but lime combines with them strongly, fixes them in the soil, and yields them solely to the growing crop. Hence, without lime, no soil can be long otherwise than barren. Though most soils are more or less deficient, none capable of supporting vegetation can be entirely destitute of lime in some form. This property of lime of combining with and fixing manures, may be advantageously used on every soil which nature has not made abundantly calcareous: but this benefit must necessarily be gradual, never quickly perceptible, nor can it be expected at all, unless on soils under meliorating culture, which will allow more to return to the earth, than is taken off.

The next most important effect of lime is that of neutralizing acids. Lime is never furnished by nature pure, as it attracts acid so strongly as always to be combined with some one or other—and most generally with carbonic, the weakest and most abundant of all, and with it forms mild lime or calcareous earth. This acid is driven off by strong heat, leaving the lime then pure, (or caustic,) or it will readily yield its place to any stronger acid which may be brought in contact. Thus, if a bit of chalk or limestone be thrown into diluted aqua fortis, the strong acid seizes on the lime, the weaker escapes in air bubbles, and (if enough lime is used) the acidity and other qualities of the aqua fortis are entirely destroyed. Such a process takes place in most of our soils when lime is applied, and probably may in some of yours. Decaying vegetables or other causes, produce acids which either combine with lime and form useful manures, or if all the lime has been already taken up, poison both crop and land. The mark of an acid soil is a vigorous growth of pine, whortleberry or sheepsorrel. When enough lime, (whether mild or caustic) is applied to a soil of this kind, the poisonous acid is destroyed, one cause of barrenness removed, and the first crop may be increased from 50 to even 200 per cent. before any other effect of lime comes into action.

There are several other minor benefits from lime, with a detail of which I shall not trouble you: for if my opinions are well founded, the two properties of fixing manures and neutralizing acids are sufficient to shew that lime (and nothing else but lime) will ena-

ble us to make durable and profitable improvements on such soils as are naturally poor.

Since the publication of my early experience of marl, (as we improperly called the bed of fossil shells,) my opinion has suffered no change or abatement as to the value of that manure. I have extended the improvement over my farm as fast as possible, and generally with great benefit, though sometimes to loss. Not fearing any injury, I applied in most cases from 500 to 800 heaped bushels of shell marl per acre, about one-third of which, on an average, was pure calcareous earth—and the crops of the present and preceding year have given proof that I was too lavish in the application. Several of my neighbors found equal injury from smaller dressings, but on land not secure from gauging, or more severely cropped than mine. Where equal quantities were put on, the injury on my land was in proportion to the poverty or sandiness of the soil, or the deficiency of vegetable matter: under opposite circumstances, no injury was produced even where 1000 to 1200 bushels had been laid on. The remedy for this error then is apparent—and where too much mild lime has been given, the soil is made more able to retain and profit by the vegetable matter which is then wanting. No soils have yet suffered in this way except such as were before acid, which induces the belief that the salt of lime (formed with the vegetable acid) causes this disease—and unless enough dead vegetable matter be present for this salt to act on, that it will injure the growing crop. Though I have lost some crop, and much labor by these heavy dressings, the result has not discouraged me: it only shews the manure to be much stronger than I thought, and that less will be sufficient to produce either benefit or injury. Candor requires the statement of loss from marling, which however could not have occurred either to my neighbors or myself, if the advice I formerly gave had been attended to, viz: to apply the manure in small quantities, and repeat it as might be found necessary, and not to use it at all, if exhausting cultivation was to be continued. No first crop after marling has suffered by this disease, (and its marks are too evident to be overlooked;) and when it has occurred in the second rotation, it never reduced the crop so low as the product of the land in its previous state. Another fact is worthy of observation: on spots where wheat of this and last year's crop was almost destroyed by over liming, clover stood and grew so well, that it promises to draw off the excess of the salt of lime, or otherwise to furnish enough vegetable matter to balance and cure the evil. Of this, however, my experience is as yet too limited to be considered as furnishing conclusive evidence.

When not diseased, the crops of the second rotation have been always good, and sometimes much better than the first crops after the fossil shells were applied. This increase was looked for and promised, before facts had proved this effect of lime.—My later experiments with first dressings give results similar to those already published. But the most satisfactory proof I can offer you of the value of calcareous manures, is a statement of my crops of wheat, which having been generally my only article for sale, and always the most important, as much as possible was raised, and the average product may fairly be supposed to mark with tolerable accuracy the increase of fertility in the farm.

The last crop I expected would have been at least 2000 bushels, and that it fell short was entirely owing to the unexampled injury caused this season by rust. As it was, my loss was less than on any other farm in the lower country that I have heard of, as but few made half a crop, and many did not save enough for seed. This difference was mostly owing to the manure I had used, as lime hastens the ripening of all crops, and a few days' difference in the ripening of a field of wheat may either cause its destruction by rust, or insure its safety.

None of my limed land brought wheat until 1920,

and the following table shews that but little average increase of product had taken place before.

Years.	Acres.	Product.	Average.	Average per acre for 6 yrs.
1813	145	810	5 $\frac{5}{13}$	5 $\frac{1}{2}$
1814	110	550	5	
1815	78	520	6 $\frac{2}{3}$	
1816	104	896	8 $\frac{6}{10}$	8
1817	79	595	7 $\frac{7}{9}$	
1818	63	450	7 $\frac{2}{3}$	
1819	132	1015	7 $\frac{1}{13}$	7 $\frac{1}{2}$
1820	119	1020	8 $\frac{1}{13}$	
1821	160	1049	6 $\frac{9}{10}$	
1822	154	1627	10 $\frac{8}{13}$	10 $\frac{1}{2}$
1823	139	1475	10 $\frac{8}{13}$	
1824	194	1850	9 $\frac{10}{13}$	
1825	195	1452	7 $\frac{1}{13}$	

Some of the after increase is certainly due to other kinds of improvement, but I have no doubt that full three-fourths of the whole was caused by the use of calcareous manures, on land rested two years in four, and not grazed. During the first six years, only about half my corn land was put in wheat, the other half being so poor that even our overseers admitted that seed would there be thrown away. You must observe, therefore, that it was the richest half of each shift that averaged from 5-13 to 8 bushels. During the last term, all the land before left out has been in wheat, which makes the increase of average product greater than would appear from the table. Even the highest rate of product above stated, may be thought contemptible by a farmer on your fine wheat lands; but through our poor and sandy country, the average does not exceed five bushels for the land actually put under wheat, and it would not be three, if all the corn land was sowed. Yet the time will arrive, when by means of our calcareous manures, this now barren region, will shew fields the most highly improved above their natural state, and more profitable farming than any portion of Virginia.

You doubt whether lime will suit limestone soils, arises from the supposed similar constitution of soil and manure. I have not much personal knowledge of limestone lands, but have always supposed them, as you describe yours, "originally rich," and have attributed that richness to their being manured by nature with lime. It follows, from this supposition, that the value of lime as a manure will be lessened in proportion to the natural supply; that sometimes it may be useless, or even hurtful, (as when the soil will effervesce with any strong acid,) and in no case can it be as beneficial as on our pine and whortleberry lands, which are entirely destitute of calcareous earth, and nearly so of lime in any other form. But it does not follow that lime may not be advantageously applied to most limestone soils, though to what extent and profit, experience can only shew; for it is a remarkable fact, that but few of those in this state contain any portion of calcareous earth, (*carbonate* of lime,) though they are evidently affected by the limestone with which they are mixed, or in contact with. To the question what has become of the calcareous earth which the soil must have derived from the rock? I answer, that it still remains in the soil in another form: the lime being combined with the acid furnished by the decomposing vegetable matter, which being abundant enough to take up all the lime supplied by nature, shews that more might be beneficially applied. I cultivate more than 100 acres of land, naturally containing a slight mixture of shells, and which, in this respect, as well as in natural fertility, I suppose is nearly similar to your limestone soils; here the effect of calcareous manures, in

the first crop, is scarcely perceptible, though I confide in the benefit increasing with time, and accordingly shall lime the remainder of this soil, as soon as I can finish what is less favored by nature, and where greater improvement has been derived. But others have met with more pleasing results. Your friend Benjamin Harrison, found great benefit from fossil shells, which he carried across the river from my shore, and applied to some acres of the naturally rich land at Berkley. The extensive improvements made with oyster shell lime, by George E. Harrison, at Brandon, are mostly on land naturally rich, and not more destitute of lime than you will find most of your limestone soils.

When I speak of limestone soils, I mean to confine the term to such as are so intermixed with limestone, or lying so near it, that the soil must necessarily have been furnished with some of its component parts from the stone. If my theoretical opinions are correct, every such soil should be naturally rich, durable, and, when worn by cultivation, easy to restore by rest or manure, compared to poor natural soils. If you knew any exceptions to this rule, if any real limestone soil is poor (without being made so by such evident causes as wetness, excess of rock, &c.) I would gladly be informed of the facts, as they would furnish the only known contradiction to the opinion before stated, that a proper proportion of calcareous earth will make all soils capable of becoming and continuing rich. But if Frederick is like Augusta and the adjoining counties which I have visited, you have soils enough, which, though (by courtesy) called limestone, are not better entitled to that name than the pine lands of the lower counties. By most persons, the term *limestone* is applied, not only to any land that shews a few detached masses of that rock, but also to wherever there are limestone springs, or under which a body of limestone lies, though forty feet beneath the surface. If the soil could be made calcareous by so distant a substratum, then the whole tide water district would be so, as a body of fossil shells lies under the whole extent, and generally much nearer the surface. Much of this land appeared to me very poor, and I think would be as much improved by lime as any of ours.

You ask, "to what crops, or in what mode, is lime most advantageously applied?" My fossil shells produce most immediate effect, when laid on the sod before ploughing, and corn, or some other horse food crop, first raised, to mix the manure well with the soil. But when convenient, I prefer laying it on after ploughing, as it is better intermixed in the course of cultivation, and the danger of its being buried too deep is avoided. Caustic lime is usually applied to the surface of ploughed land, and slightly covered by repeated harrowings; and it is evident that this mode of covering must convert the quick to mild lime, before its solvent powers can reach the more deeply buried vegetable matter.

Until I began on cotton this year, I have made no field crops except corn and wheat, to which calcareous manures are equally beneficial. Clover is much more improved than either by lime, and without it (applied by nature or art,) it is in vain to attempt raising clover to any extent, in this part of the state. Several years ago, I formed the opinion, that on land made calcareous, gypsum would act, though of no effect before; and though not confirmed, the opinion has gained strength from my experiments and observations, and however opposed some facts are, the greater weight of evidence is decidedly in its favor. The acidity of our soils, I think, will serve to account for the general want of effect from gypsum, and the supposed change of results after first applying lime; but it would be premature to offer the explanation of a fact which, however important it may be, is yet of doubtful existence. You are aware that gypsum has seldom any effect below the falls, and that most of the opposite results are in the rich river lands, of all, the most exposed to the "salt exhalations," which have

idly been supposed to cause this remarkable and general defect in our lands. You state the general objection to liming in Frederick to be, first, the belief that your soils are already sufficiently calcareous, and secondly, the cost of fuel. I have before offered you reasons for my belief that your soils generally are not even slightly calcareous, and on the most accurate examination, I do not think you will find a twentieth part of even your limestone soils to contain the smallest proportion of calcareous earth. The expense of burning I cannot estimate even on the practice of neighboring farmers, of whom I have in vain made inquiries. But even if your fuel should be rather more dear than on James river, you would obtain the material for lime at far less cost. Oyster shells taken from vessels off the landing places, cost 62½ cents per bushel, (yielding fourteen bushels of lime,) while you would quarry the rock on the farm, or perhaps the field, where the lime was to be spread. But I doubt whether burning will be necessary in every case where you may manure with lime; as its solvent power is seldom used or wanted, it will serve as well mild as caustic, if it can be broken down fine enough without heat. Limestone gravel is used to great profit in Ireland, and perhaps may be found in our limestone country; and from my own limited observation, I know that substitutes for it may be obtained in various places, if they should be found to suit as well in their quantity, as in their richness. With a view to answering your inquiries, I paid attention to mountains, and would have examined many supposed materials for manure, but for the want of the necessary tests; as it was, I brought home, and have analyzed, eight or ten specimens of rock, which from their softness and supposed abundance, seemed to promise calcareous manure of some value, without the cost of burning. Of these, one, frequently seen in the roads, is like limestone in color, but more like slate in softness, and easily broken into thin layers, and what is exposed to the eye might be pounded to gravel without much labor. A specimen of this, taken about midway between Waynesborough and Staunton, contained 46,100 of calcareous earth; another taken near Lexington, on the road to the Natural Bridge, contained 80,100. The stone which covers a considerable portion of the arsenal lot has 84,100, and though much harder than the others, is so soft as to be considered of no value for common purposes, and can be quarried and broken down with a pickaxe. A stone which is very abundant about the Salt Sulphur springs, is so hard in the earth, as to yield only to the force of gunpowder, yet crumbles to small gravel after a few weeks' exposure to the air. This contains only 17,100, and is too poor to pay the expense of blasting, but would be worth using, if already exposed to the air. These specimens were selected almost by chance, and even so some judgment had been exercised, it would require many more examinations to prove the strength or worth of any large bodies of such substances; and they are mentioned only to shew that such manures may be found, and are worth your seeking. Another calcareous rock is found in limestone streams, which is richer than my best shell-marl, and nearly as soft: I mean that deposit of limestone water, to which the name of *marl* is as incorrectly applied in the upper country, as here to our fossil shells. This is nearly pure calcareous earth, and so far as its quantity will go, it must be a very cheap as well as rich manure. In these rocks I should expect to find resources for the improvement of land; but at the same time that I offer them to your notice, I am sensible that the very descriptions given, most probably shew how little I am acquainted with the substances recommended.

It may be objected that calcareous manures, the particles of which being as coarse as gravel and not very soft, would not be reduced in the soil, and would consequently remain nearly worthless. Certainly the most minute division is best, and therefore 100 bushels of burnt lime, may be expected to exert as much power on the first crop, as 200 bushels in a

coarser state; and it may be admitted further, that particles of limestone, or shells, would for many years defy the decomposing powers of air, moisture and frost, which are commonly supposed the only agents for producing this effect. But however hard and insoluble these small fragments may seem, I believe a soil that requires lime, will completely dissolve all of moderate size in a few years. Such at least, is the invariable effect found, when a once acid soil is ploughed up for the second rotation, after applying the fossil shells, unless they were of the largest or hardest kinds, or the dressing unnecessarily heavy. Another fact will prove that this solvent action is peculiar to such soils as I have called acid. On our river lands, spots may be seen whitened with thin bits of muscle shells, which have been exposed at or near the surface for thousands of years, and to the action of the plough for the last century; yet muscle shells, which on those places appear so indestructible, are thinner, softer, and, from the animal matter they contain, more easy to crumble than the fossil sea shells which are used for manure. The acidity, or something equivalent to acidity, in the one soil, and the absence of it in the other, will serve to account for the very different effects produced. Yours, &c.

E. RUFFIN.

THE WEEVIL.

Mr. SMITH: *Virginia, October 19th, 1832.*

It is a curious fact, that no weevil have made their appearance in the wheat in this part of Virginia, the present season. In stacking my own little crop I sprinkled it with salt, in pursuance of a practice that had been successfully adopted on the Ohio river, and which I wished to test. Finding no weevil in my wheat when it was thrashed, (nor up to this day, for it is unsold,) I inquired of some of my neighbours, who informed me that they had neither seen nor heard of any weevil during the season. My inquiries have extended to several counties, and the same answer has been uniformly given. How far this is a general thing throughout the state, or even throughout lower Virginia, I know not. We all know the very destructive ravages of that insect, and that, unless our crops are gotten out quite early, they are liable to be greatly reduced in quantity and quality by it.

The extent of the present exemption from this serious pest of the wheat grower, ought to be made known through the American Farmer, and otherwise. The cause of that exemption will, of course, be matter of investigation and speculation. It is worthy of our closest attention, and most pains-taking inquiries. For, in the wheat growing portion of Virginia, the industrious farmer is liable, some years, to lose from one-fourth to one-third of his wheat, by a single fortnight's delay in getting it out, and sometimes after it has been gotten out, the injury is nearly as great. I think this ratio of loss is not too high in most cases, in unfavorable seasons. When the weevil perforates, and comes out of the grain, it has consumed the flour of it, and leaves but the rind, with the germinating bud, and a parcel of excrementitious dust and matter. The miller too, loses by such wheat. He has to pay for the weight of the worthless grains, and for that portion of the grains in the several stages, from the first hatching of the insect to its entry into its winged existence. It is true, that he runs the wheat through strong blowing mills, and through rubbers, which wash the empty rinds, and the fat, plump, living grains: but the young, half-grown insect is apt to escape, and go into the mill-stones, and give richness and flavor to the flour. In fact, the essences of the fat worms and hatching flies that must be crushed in countless numbers, and must stick to the sound, and half-sound grains, that have solidity enough to resist the wooden rubber, and specific gravity enough to drop through the wind of the blowing machine, is sufficient to make the flour rich enough for the palate of an epicure. Keep me from eating such cakes, however fair they may look!

Within my recollection there was not a weevil west of the Blue ridge; but they have become numerous there, though not generally so destructive as with us, from the colder nature of the climate, I presume.

The millers in our town of Richmond have as good mills as can be found in the world; and I believe they are nice and particular in their business. They make family flour that cannot be surpassed—but they make it out of wheat that is brought to market soon after being cut; and grind it before the weevil appears in any shape. They have, heretofore, been in the habit of purchasing inferior wheat, out of which they made confessedly inferior flour, on which they would not put their brands, although much of it was fair enough to pass the inspector, who is a very clear sighted and exact man. But they do not purchase this description of wheat now, in consequence of a controversy with the legislature, relative to their brands, which I have not time to explain, if it would interest your readers. If the millers have not already triumphed, they will finally do so; for, it is useless to attempt to regulate by law, the industry and pursuits of men. Every thing must be left to itself. Industry will work in the most profitable shop, and men will consult their own interest and happiness without legislative instruction: at the same time they will readily pocket bounties and premiums, if poured into their laps. But this is no insect subject, like that which is the theme of my letter.

I trust, that your numerous and intelligent correspondents will take up the subject of the weevil; inform us what portions of the United States are subject to it? How far the exemption I have spoken of extends? What remedies have been adopted to prevent its ravages? In what manner its eggs are introduced into the grains? In short, what are the history and habits of the insect?

It is proper, that I should mention a fact, which I did not know until a few years since, and which may not be known to all of your readers. When wheat heads out, the grain has scarcely begun to form, and the head grows rapidly. The formation and growth of the grain are singular, and, as far as I have noticed, unlike any thing else in the history of vegetable growth. When the head comes out of the boot, it is not quite so long, nor so thick as it will be; but the shuck for the reception and covering of the grain is complete in form. When the grain begins to appear it is not a small grain, formed by nature to be enlarged by regular growth, but the bottom or heart end appears of full size, with a flat surface on top, out of which proceed to the extremity of the shuck numerous small fibres. As the grain grows it maintains this full size below, and flat surface above; so that when half grown, if you take it out of the shuck, it looks like a grain cut in half, except that where it seems to have been cut, it is covered with long white down, perceptible to the eye, and that may be taken hold of by the fingers. It continues to grow up in this flat form, until it is perfected, when all the silky fibres are brought to a point, and form a fuzz at the upper end of the grain. In this fuzz, after the grain is formed, some speculators think that the eggs of theessian fly, of the weevil, and the farina of the rust, are deposited. But it is not my object to go into these speculations. I have satisfied myself that the grain of wheat grows lengthwise, and of full size as I have described. The shuck by which it is protected is open on two sides, and is accessible to the insect tribe, and to fine pollen when nearly ripe. I take it for granted, that the fibres I have mentioned receive the farina of the bloom. Those who have not noticed this peculiarity in the growth of wheat will look into it during the next spring, if they have curiosity enough, or doubt this representation.

Some of your readers may not have seen the remarks of Mr. Jefferson, written in 1781, on the subject of the weevil. I copy them from the 20th Enquiry, in his Notes on Virginia. Speaking of the cultivation of wheat he says:

"The weevil indeed is a formidable obstacle to the cultivation of this grain with us. But principles are already known which must lead to a remedy. Thus, a certain degree of heat, to wit: that of the common air in summer, is necessary to hatch the egg. If subterranean granaries, or others, therefore, can be constructed below that temperature, the evil will be cured by cold. A degree of heat beyond that which hatches the egg we know will kill it. But in aiming at this, we easily run into that which produces putrefaction. To produce putrefaction, however, three agents are requisite, heat, moisture and the external air. If the absence of any one of these be secured, the other two may be safely admitted. Heat is the one we want. Moisture then or external air, must be excluded. The former has been done by exposing the grain in kilns to the action of fire, which produces heat, and extracts moisture at the same time: the latter, by putting the grain into hogsheds, covering with a coat of lime, and heading it up. In this situation, its bulk produced a sufficient heat to kill the egg; the moisture is suffered to remain indeed, but the external air is excluded. A nicer operation yet has been attempted; that is, to produce an intermediate temperature of heat, between that which kills the egg, and that which produces putrefaction. Threshing the grain as soon as it is cut, and laying it in its chaff in large heaps, has been found very nearly to hit this temperature, though not perfectly, nor always. The heap generates heat sufficient to kill most of the eggs, whilst the chaff restrains it from rising into putrefaction. But all these methods arise too much the quantity which the farmer can manage." &c.

We have had two uncommonly cold winters following each other, the effects of which may have been felt by the weevil. But my communication has filled my sheet, and I leave the subject for the discussion of more experienced farmers than myself. Its great importance will be acknowledged by all who have experienced the evil of the weevil.

HENRICO.

(From the Southern Agriculturist.)

ON THE CULTURE OF RICE.

BY J. BRYAN.

(Continued from page 255.)

When the field is ready for planting, by being chopped and levelled, it is then trenched in the following manner. I select a few of the most intelligent and capable fellows, whom I denominate stake men; they put up stakes with great accuracy five feet apart, and mark out the entire field, making a trench of the proper depth and straightness on each stake row, which serves as a guide or pattern for the rest. The whole number of trenches are then sub-divided into gangs of three; one of the smartest with two of the common hands task together; the best workman of the three makes his row or trench in the centre, between the stake rows, the two others follow him on his right and left, making their trenches between his and the stake rows, by which regulation, the distance between the trenches and the depth is much more regular; the bad work of each hand is more easily detected, and the whole operation is more equally and neatly performed than when the entire gang work together; for then the slow or inferior workmen, must hurry; and the work is badly performed to enable them to keep up with the quick or more expert. Although you may have the same number of rows in the half acre, some will be thirteen inches apart, and others eighteen, some four inches deep, when others are but two, and the combined diligence of master, overseer, and driver cannot prevent it; the result of which inequality is more injurious than is generally believed. The rice in the deep trenches from being covered double the depth of the other will be much longer in coming up, much of it will rot after it is sprouted, particularly in early planting, when the ground is cold, and in every hoeing much injury is done; the rice in the

narrow alleys gets cut down and the ground is not half stirred, and much grass is left in the wide alleys.

I prefer very shallow trenching, just deep enough to give dirt sufficient to cover the rice from the birds, and prevent its floating when the water is put on. Rice that is covered deep never tillers as well as that which is covered lightly. I use the three inch trenching hoe, as sold by Mr. Timmons and others: the trenches are fifteen inches apart from centre to centre, that is, one hundred and twenty rows to a half acre—the task is three-quarters of an acre to each hand, except the stake men, who from the accuracy required of them, do only half an acre, that is to say, they are each required to trench a number of rows equal to one hundred and twenty rows, of one hundred and fifty feet in length. When the field has not been dug up in winter, but merely hoed between the old rows a few days previous to trenching, each hand does his three-quarters of an acre, has his task to himself, and is only required to make the trench of the proper depth and exactly in the centre between the old rows.

I always trench across the small ditches regardless of any geographical line, though I have heard some excellent planters say, that it is best to have the rows run north and south, with a view to the effect of the sun upon it; experience, however, has convinced me, that many advantages are derived from having the rows to cross the small ditches. Among the number are these—much of the putrid scum and slime that adheres to the stalks of rice, when the long-flow is let off, and which is very injurious to rice, passes through the alleys into the small ditches, and goes through the trunk into the river, whereas if the rows run parallel with the ditches, the current would draw across the rows, and the scum cannot as readily be drawn into the ditches—the edges of the ditches are kept up better, and less ground is lost by planting in this way.

I plant two bushels of seed to an acre: the margins next the river being more injured by birds and rats, and low places in the field more liable to rot, are planted thicker. I am supplied every year by a neighbor who plants inland swamp (stiff blue clay) with a small quantity of hand picked seed-rice, which is as free from red as rice can be, it is a heavy pearly grain entirely clear of chalk. This seed is planted in a field selected as the most free from volunteer rice, it is cultivated with great care and attention. The product of this seed field, (as we term it) makes my seed rice for the following season. It may appear strange that I do not plant my whole crop with seed from inland swamp—from repeated experiments, I am satisfied that notwithstanding the best cultivation, and most prosperous seasons, the production is never as great the first year that inland seed is planted on our river lands as it is the second. It must be recollected that all my observations are confined exclusively to Cooper-river lands, which are the lightest black soil. I have frequently planted seed from North Carolina, and some from the southward, but never discovered any advantage from either. Immediately before planting, the seed rice is passed through the wind fan, and a sieve, to take out any light grains or grass-seeds that may be in it.

Great regularity is requisite in sowing rice, it is as injurious to have it too much scattered in the trench, as to be sowed too narrow or on the string, (as it is called) the trench being only three inches wide, and planting two bushels of seed to the acre, it will admit of being scattered the full width of the trench. Two acres is the task for a sower, but, except she be experienced and the weather very calm, so much cannot be done in a proper manner.

The rice is covered by the women, who use light wooden beaters—three-quarters of an acre is the task, and it is the easiest work done on the plantation. Water is put on immediately after the rice is covered, and kept on deep for three or four days, during which time all the trash which has floated must be

taken off. I have never used the point-flowing but twice, my land is not level enough to use it with advantage, the low places were much injured, and I saw no benefit to the higher. If I planted level clay lands, I think I would invariably use it. As soon as the rice is large enough, say getting the fourth leaf, it is hoed pretty deep and a good sod turned over, a prime hand will do half an acre. If it is possible, I give a second hoeing before the water or long-flow is put on, that the sods may be perfectly pulverized, and the ground thoroughly stirred. A day or two after hoeing, the water is put on deep for three days, then drawn down so that the points of the leaves will be an inch or two out of the water, make a mark on the trunk-stem or post, and let the water be kept precisely at the same depth until the rice grows through and becomes strong. At the end of fourteen or fifteen days, counting from the first day the water was put on, examine the roots of the rice, the best or only sure mode of ascertaining whether the plant is benefited or injured by holding on the water. If you find that it continues to put out new roots and to form tillers, the water may be continued on (frequently changing or freshening it) for five, ten, or even fifteen days. The roots must be frequently examined, and immediately as you discover that they are getting hard and cease to grow, run the water off, and while the field is yet very wet, hand-pick the rice, by pulling all the long grass out of it, and laying it in the alleys: as soon as the field gets perfectly dry, hoe it pretty deep. Six or eight days after hoeing, examine the roots, if they are hard and dry, and the weather very hot without showers of rain, dash the field by letting in a tide or two so as to soak the ground well, and then run it off; look to the roots again in a few days, if no new roots are put out, give a second hoeing, the rice will soon change colour and start to growing. As soon as you discover that the stalk of rice is putting out a new set of roots above the old, similar to those put out on the stalks of Indian corn, it is evident that the plant is about forming the second or ear joint, and must instantly have the water, for this is decidedly the most important crisis in making a crop of rice, nay, to obtain a full crop, it is a *sine qua non*, to have your field perfectly clean, and a full command of fresh water at this time, inasmuch as the ear is now about to be formed, and will be either long or short, have many or few grains upon it, in proportion to the healthy or unhealthy state of the plant, and the quantum of grain can no more be increased by subsequent attention or good culture, than the sex in the animal creation can be changed after the formation of the fetus. The quality of the grain, I am free to admit, may, and, no doubt, is greatly improved by subsequent good management, but the quality cannot be increased, though from bad culture or unpropitious seasons it may decrease. The water should be put on somewhat deeper than the regular depth, (though not to cover the rice,) for two days, then bring it down to the regular standard depth at which it must be kept, although it should be freshened every two or three days, by letting some of the old water out and taking in fresh: some persons merely keep the regular depth of water by letting in fresh to make up for the evaporation and soakage. Rice will not do so well in this way as by changing the water.

The crop is now said to be laid by. The water is kept on until a few days before the rice is out, with the exception of four or five days, when it is tight in belly or just ready to ear out. The object in letting off the water at this time is to make the whole field of rice ear out, and blossom, at the same time. The importance of this operation is obvious, for if the water is continued on, the ears of rice upon the main or original stalks blossom and mature sooner than those upon the tillers, the consequence is, that in harvesting, either the rice upon the main stalk is over ripe, or that on the tillers is not ripe enough—much loss resulting in either case. If the eat tail or any other long grass appears among the rice before it is full in

belly, a few careful hands should be sent into the field to pull it up. The field being under water, the grass must be rolled up into balls and pushed with the foot under the mud in the alleys, but upon no consideration should any person be permitted to go into the field after the rice is full in belly.

I forgot to say that it is not unfrequently happens when the long watering goes off, that the rice becomes very red, or as we term it, gets foxed, in which case some persons return the water upon it. This is a great error; keep the field very dry and stir the ground well with the hoe, twice within a few days, if necessary, you will soon find it drop all the old red leaves, put out new heart blades, and, simultaneously, new roots and tillers are put out, whereas if the water is put on before this change takes place, the rice is very much backened, and never recovers in time to make a full crop, for the ear will be formed when the plant is sickly.

The proper time to cut rice is when the grains, about an inch from the bottom of the ear are ripe, for if you wait for the eight or ten grains at the bottom to be fully ripe, you will most assuredly lose more than that quantity by its dropping from the top of the ear, and which is always the best grain.

Whenever a field of rice is to be flowed, the ditches should be well washed out, by letting in a tide or two and running it out dry, for, however, tight the trunks may be, much stagnant and putrid water, with slime and moss will be collected in the ditches, and is very injurious if allowed to go on the rice.

(To be continued.)

HORTICULTURE.

SKETCH OF THE HISTORY OF THE DAHLIA.

MR. SMITH:

Sir.—At this moment, when, in consequence of your exhibitions, the Dahlia has attracted considerable attention, the following article may, perhaps, be acceptable to your readers.

DAHLIA.—Class, *Syngenesia*. Order, *Superflua*. Linn.

Synonym, { Natural order, Compositæ. Sub-order, Georgiana { 17, Helianthem. Tribe, 23, Coreopsideæ. Variabilis { Jusseu, Broen, Cassini, &c.

This attractive flower is a native of Mexico, and was first brought to Europe between 1789 and 1792. It was during the latter year, (1792) that seeds were sent from its native country, to Cavanilles, Professor of Botany at the Royal Garden of Madrid, and from him the plant received its present denomination, being named after Andrew Dahl, a Swedish botanist and pupil of the great Linnaeus. It reached Paris in 1802, a portion of seeds having been sent by Cavanilles to his friend the venerable Andrew Thouin, Professor at the Paris "Garden of Plants." The plants obtained from these seeds produced flowers of three different colors, and all single, which were known as *Dahlia rosea*, *D. coccinea*, and *D. purpurea*, and were then considered as three distinct botanical species.

In a short time, however, two of the three supposed "species" disappeared; but the third was preserved, much multiplied and scattered throughout France, and thus became the parent of all the Dahlias known in France and many other parts of the continent, until within the few last years, when many were brought from England, where it had been known as early as 1750.

At its first introduction, it was thought that the roots of the Dahlia, being large and very succulent, might prove a valuable acquisition to the kitchen garden, or at least form a desirable food for cattle. For both these purposes they were found to be unfit.—Their pungent and spicy flavor rendered them unpalatable to man, and cattle refused them for the same reason. Besides, after the observations of some

French naturalists, they are pronounced destitute of nutritive fecula and saccharine matter.

But if the Dahlia proved an indifferent esculent, it claimed attention as an ornamental plant. As its propagation was extremely easy, and its flowers, even in the simplest form, attractive, it was soon multiplied to a prodigious extent, and by raising continually from seed, so many new varieties were obtained, that in a short time, all traces of the three original "species," (as they were then thought to be) were completely obliterated, and botanists began to think that there was in reality but one species of which the numerous and widely different sorts were mere varieties. At present the general opinion seems to fix two species, founded on less fugacious characters than the color of the flowers, at all times sufficiently variable, but particularly so in this very playful genus; these species are *Dahlia superflua*, or fertile rayed, and *D. frustanea*, or barren-rayed, and their characters, as defined by Loudon, are as follows:

Dahlia superflua. Rachis* of the leaves winged; leaflets smooth beneath, and the outer involucrem reflexed.

Dahlia frustanea. Rachis, naked; leaflets, rough beneath, outer involucrem spreading.

[Loudon Enc. Plants, p. 718, 719.

From these two species have been raised an immense number of varieties, single, semidouble and double, of every tint and shade, from pure white, through all the variations of color, (blue only excepted) to black. A distinguished amateur residing at Geneva, in a letter to Poiteau, editor of a French work on horticulture, writes that he himself had originated 750 varieties of Dahlias, very nearly all of which were extremely double, and all without exception highly beautiful; for of the indifferent ones he keeps no account. This letter was dated November 6, 1829. The editor remarks that this gentleman, (Mr. Wallner) in consequence of the great experience he has acquired in the culture of the Dahlia, and his perfect acquaintance with its properties and characteristics of a "good flower," has become extremely difficult (to use a French phrase) as to the admission of a new Dahlia into his collection, where he keeps none but the best, the first rate ones; and of which he publishes a catalogue from time to time. He issued one last year, of the "Dahlias which flowered for the first time in 1830," which contains the names of 1150 splendid varieties. D***

(To be continued.)

(From the New York Farmer.)

SILK COCOONS.

We have received from Miss Parmentier, of Brooklyn, two baskets of silkworm cocoons, for exhibition at the approaching Fair of the American Institute.—They consist of two broods spun the present season. Those of the second are much larger than the first, and what is of more importance, all are of a beautiful white color. We hope every lady in our country, who has given attention to the rearing of silkworms, will imitate Miss P., by exhibiting at the Fair, specimens of their cocoons, and, if convenient, accompanying them with statements of their mode of management. By so doing they will set a laudable example, and promote the welfare of their country.—The following has been politely furnished by Miss Parmentier.

The silkworms of the first brood were hatched, May 9, 1832. They were fed on the *Morus alba*, or white Italian mulberry, *Morus multicaulis*, or Chinese

many-stalked mulberry, *Morus alba macrophylla*, and other varieties. The litters were changed every second day. The result of this mode of feeding was that the worms were in excellent health, and that the cocoons were about two-thirds white, and the remaining straw-colored. The eggs which produced the worms of the second brood, were from cocoons selected from the first brood, without regard to color; care, however, having been taken to set aside those cocoons only, which were of approved form.

The worms of the second brood were hatched July 30th. These were fed exclusively on the *Morus multicaulis*. A proof of the excellence of this mulberry, is, that the silkworms of this brood which had received the same care as those of the first, completed the different stages of their existence in the short period of twenty-six days. The cocoons obtained from this brood were all of a perfect snow whiteness. If experience should prove that silkworms fed entirely on the *Morus multicaulis*, invariably produce white cocoons, it appears evident that this will add another invaluable advantage to those which this tree is already known to possess—it being perfectly hardy, always preferred by the worms to any other kind, having abundance of large leaves that require but a little time to gather them, and constantly putting forth branches, and leaves that always afford food suitable for the different ages of the insects.

(From the New York Commercial.)

EXHIBITION OF FLOWERS.

The committee of the Horticultural Society have not yet furnished an official report of their Exhibition of Autumnal Flowers, on Tuesday and Wednesday. It was as splendid an array, however, as the bright eyes of beauty ever rested upon. We spent an hour in admiring them, and even then tore ourselves reluctantly away. The exhibition was intended chiefly for the Dahlia; but the floriculturists brought forward many other specimens of autumnal flowers. Among these a large bouquet of the Monthly Tea-Roses, of several varieties, sent in by Mr. William Neale, attracted particular notice. The Dahlias were exhibited in gorgeous profusion, and of every variety of size, hue and brilliancy. We cannot designate the names of the contributors, nor pronounce whose were the most beautiful: suffice it to say, that these superb flowers could not have bloomed more gloriously in the gardens of their own native Mexico. We understand that Mr. Gilbert Davis, No. 67 Pike-street, has a single Dahlia shrub, which has been continually flowering since the first of August, fourteen feet in height, and spreading forty in circumference! The flowers from this remarkable stalk, were very beautiful.—Contributions were presented by Mr. Hogg, Mr. Floy, Mr. Kiunersley, Madame Parmentier, and other florists and horticulturists, whose names do not occur to us. Messrs. G. Thorburn & Sons, were very large contributors, not only of Dahlias, but of various other specimens. Several gentlemen were likewise contributors from the gardens of their country seats.—The flowers from the garden of Mr. N. Prime, were accompanied by rich clusters of grapes. But in the whole collection, we saw nothing more beautiful than a large basket of Dahlias and Roses, and various other blossoms, with which we were presented by Madame Parmentier yesterday. We like to write upon this subject and only regret that we cannot do better. "Flowers," it has been well said by we know not whom, "are for the young and for the old—for the grave and for the gay—for the living and for the dead—for all but the guilty, and for them when they are penitent." Flowers are, in the volume of nature, what the expression "God is love," is in the volume of revelation. They tell man of the paternal character of the Deity. Servants are fed, clothed, and commanded; but children are instructed by a sweet gentleness—and to them is given, by the good parent, that which delights as well as that which supports. For the servant

there is the gravity of approbation or the silence of satisfaction—but for children there is the sweet smile of complacency and the joyful look of love. So, by the beauty which the Creator has dispersed and spread abroad through creation, and by the capacity which he has given to man to enjoy and comprehend that beauty, he has displayed not merely the compassionateness of his mercy, but the generosity and gracefulness of his goodness. What a dreary and desolate place would be a world without a flower!—It would be as a face without a smile—a feast without a welcome. Flowers, by their sylph-like forms and viewless fragrance, are the first instructors to emancipate our thoughts from the grossness of materialism—they make us think of invisible beings; and, by means of so beautiful and graceful a transition, our thoughts of the invisible are thoughts of the good!

(From the London Horticultural Register.)

CULTURE OF THE HORSE RADISH.

Wandswoth, May 22, 1832.

The horse radish (*Cochlearia Armoracia* of Linnaeus) and *Armoracia rusticana*, of modern botanists, belongs to the natural order Cruciferae is indigenous to many parts of England, being found in marshy grounds, and by road sides in Devonshire, Dorsetshire, and other places in the north of England. My manner of cultivating it is this: I first fix on a quarter composed of yellow loam, and in an exposed situation; this I have trenched 24 feet deep, taking care to break the soil well, particularly that part intended to be first planted; I then divide the ground into three parts. The first division is bored with holes eighteen inches apart every way, and from eighteen to twenty inches deep. I then take some crowns cut into single buds, and drop them into the bottom of the holes, filling them up with rotten tan, cinder dust, or any light soil; a light dwarf crop may then be sown on the ground as well as on the two pieces kept in reserve. The year following I plant another division the same way, and the year afterwards the last division is planted, by which time that which was first planted is ready to take up, this is done in the manner following: a trench is opened at one end of the piece to the depth of the roots, which are each cut horizontally with the spade, leaving the bottom of the root in the ground, until the piece, or as much as will serve for a year, be taken up. The trench is then levelled back, picking out all the little fibrous roots, and adding a little rotten dung as occasion requires. When it pushes up again in the summer I take advantage of rain to thin it out to regular distances, and by the time the last planted piece has been taken up, it will be grown to a fine size. The roots, when taken up, are laid in with their fibres entire, in a cool, moist situation, where they will keep good twelve months or more if required. By these means I have always a regular succession of well grown roots every year, and by keeping it on one quarter I prevent the nuisance of it coming up, wherever it may have been planted. When once a plantation is made it will keep producing fine roots a great number of years, giving the ground, every time you take up a quantity of roots, a good dressing of dung.

RUSTICOLA.

(From the London Horticultural Register.)

METHOD OF COOKING TOMATOES.

June 29, 1832.

Peel a dozen ripe tomatoes, and fry them in a little salad oil, with two or three green capers, cut up, and sprinkled with a little salt. A sliced onion or two also may be added, if approved of, or butter used instead of oil.

This is a Spanish dish, and it is presumed, will be found excellent by most people.

A CONSTANT READER.

* It may perhaps be well to remark, that by the term *Rachis*, is here meant that part of the stalk of a compound leaf, on which the partial leaves or leaflets are inserted, and which corresponds to the midrib of a simple leaf. *Involucrem*, the outer covering of the bud of a compound flower, answering to the calyx of a simple flower.

RURAL ECONOMY.

(From the Northern Farmer.)

PREVENTION OF BOTS IN HORSES.

The wisdom and care, with which Nature has so effectually provided against the extinction of entire races, or tribes of animals and insects, by an unerring adaptation of the instincts peculiar to each tribe, to the perpetuation of its species, is, perhaps, no where more conspicuous, than in the *larvæ* of the bot-fly. That bots in horses, proceed from the eggs or nits of a fly, somewhat resembling a bee in appearance and manners, has been a subject of traditional belief; but, by what way and means, these eggs have found a passage into the stomach of the horse, has, we believe till recently been a matter of conjecture. This insect deposits its eggs on those parts of the horse more immediately within reach of his mouth; and attaches each so strongly to a single hair, (though in the most exposed situations on the legs, and near the feet,) that they are secured from accident, by "flood and by field," and there remain, and are carried hundreds of miles; and, though the horse fords rivers, crosses deserts of sand, or plunges in mud, they are not to be detached from their place of deposit. Yet after all this, such is the wonderful economy of Nature, in relation to this insect, that the moment the horse brings his warm soft lip wet with saliva, in actual contact with the eggs thus attached to his hair, they are instantly hatched, become living grubs, and enter the mouth of the horse; and though not more than a fourth of a line in length, they are exceedingly vigorous, and move about with great activity in the saliva of the horse's mouth, and with it descend into the stomach; and there remain attached to its inner coat, in form of the bot-grub, until, if their number be sufficient, they destroy the life of the animal; or otherwise, till the June following, when they relinquish their hold, and are deposited in the dung-hill; and, being transformed, soon appear in the form of the bot-fly, prepared again to renew their perpetual round of depredations, on this most noble of our domestic animals.

That the above is not all theory, and nothing else, may be satisfactorily demonstrated by the following simple and easy experiment.

Let any one after holding his hand for a few seconds in a vessel of warm water, of a temperature a very little above blood heat, immediately pass it gently and slowly over the eggs, or nits of the bot-fly, which at this season of the year, frequently cover large spaces on the fore legs, and about the breast of the horse; at the same time pressing them gently for a second or two; and he will find on close examination, the living grub in great numbers, and though minute, yet visible to the naked eye, moving rapidly and vigorously, through the water remaining on his hand. We have seen this experiment tried, and have given simply, the process and its result.

By this experiment, so far as respects ourselves certainly, new light has been thrown on the habits and instincts of this family of insects; and, if it result not in the discovery of the means of expelling them from the stomach of the horse, after they have taken possession, it may do more; it may furnish the means of preventing their entrance there.

We are indebted to one of our patrons, a gentleman of much observation and intelligence in things useful, residing in Salem, N. Y. for the information which led to the above experiment; as well as for the following recipe, for preventing bots in horses, which is deduced from it. He says:

"Soon after the bot-fly commences depositing the eggs on the horse, take water a little more than blood warm and with a linen or cotton cloth wash those parts of the horse where the eggs are deposited, moving the hand gently over them, and repeat the washing as often as once a week, till the bot-fly disappear,

and your horse will not be troubled with bots." This gentleman further says that, "By the above experiment any man may be convinced that this recipe is a sure preventive of the bots in horses." And we see no reason why it may not be effectual; as by this means, the grub is hatched out, and immediately perishes, for want of that warmth and nourishment, provided for it by Nature, in the stomach of the horse.

KANAWHA ALUM S. LT.

Charlestown, Oct. 11.

There has recently been put in operation in this county by Messrs. Donnelly, Noyes and Patrick, a manufactory for the production of *Alum Salt*, which has been attended with entire success and promises to constitute a *new era* in the manufacture of salt in this region. Heretofore, the entire quantity of salt manufactured on the river, amounting to about one million bushels per annum, has been made by the agency of fire, supplied by stone coal, in furnaces composed of a large pan from twenty to twenty-five feet in length, used to convert the water into brine, and from twenty to thirty-five kettles used to reduce the brine and convert it into salt. This mode has been universally in use for several years past, and has proved highly successful in the production of a fine granular salt of excellent quality, and much esteemed in the western country.

The principle of the manufactory recently established differs materially from that described, as so does the article produced differ. The manufactory now in operation consists of a large pan about thirty-five feet long set in a furnace, and is closely sided up and covered over so as to prevent the escape of any portion of the steam evolved. Connected with this furnace is a vat made of plank one hundred and thirty-five feet long, and sixteen feet wide, underneath and along the bottom of which is a trunk sixteen inches square of strong plank which connects with the pan at the furnace, and conducts the steam the whole length of the vat. The upper surface of this trunk or conduit is upon a level with the floor of the vat, and is composed of lead. The pan is used to convert the water into brine which is then drawn off into vats and settled, when it is again conducted into the large vat where it is evaporated and converted into alum salt of the finest quality. The fire applied in the furnace to the pan rapidly reduces the water into brine, and the steam generated by this process, and conducted under the vat as before described, raises the temperature of the brine therein contained to upwards of a hundred and fifty degrees and renders the process of crystallization very rapid.

With these very simple fixtures, the proprietors are now making not less than two hundred bushels of salt per day, with a consumption of much less labor and coal than is required upon an ordinary furnace which produces a much less quantity. In the process all the foreign matter is effectually excluded, and the salt produced, both in appearance and quality is not inferior to any in the world.

In the success of this experiment (which we understand has been secured by patent) a great desideratum has been obtained which will be attended, with the greatest advantages, not only to this, but to the entire country west of us.

With the means of production almost unlimited, the salt from this region would have supplied nearly the whole territory on the Mississippi and its tributaries, had not alum salt been deemed indispensable in putting up provision for commercial purposes, distant shipments and the like. This led to the introduction of alum salt from the West Indies, which, to the extent used, excluded the domestic salt from market. The alum salt now manufactured here; being in no respect inferior to the imported, and furnished at a lower price, will, ere long, entirely exclude or supersede the use of the foreign articles on all of the western waters.

The gentlemen who have succeeded in establishing this valuable manufactory, and who have the exclusive privilege of erecting others, cannot fail of reaping a rich reward for their perseverance and enterprise.
(Banner.)

(From the London Horticultural Register.)

PREPARING POTATOES AS FOOD.

April 25th, 1832.

Most English cooks, I apprehend, think the boiling of potatoes rather unworthy much attention, hence we frequently find these roots but indifferently dressed. In Ireland, on the contrary, that potato fed population have brought the art of cooking them to great perfection.—Guy says,

"Leek to the Welch, to Dutchmen butter's dear,
Of Irish swains potato is the cheer."

The following accords with the Irish mode of preparing potatoes as food, and is from the pen of Benjamin Count Rumford, whose successful exertions in the application of science to the purposes of ordinary life, have contributed much to the comforts of mankind.

"The potatoes should be as much as possible of the same size, and small ones boiled separately; they must be washed clean, and, without paring, put into a pot with cold water not sufficient to cover them as they will themselves produce a considerable quantity of fluid before they boil; they do not admit of being put into a vessel of boiling water like greens. If the potatoes are tolerably large, it will be necessary, as soon as they begin to boil, to throw in some cold water, and occasionally to repeat it, till the potatoes are boiled to the heart, which will take from half an hour to an hour and a quarter, according to their size, they will otherwise crack, and burst to pieces on the outside, whilst the inside will be nearly in a crude state. During the boiling, throwing in a little salt occasionally is found a great improvement, and it is certain that the slower they are cooked the better. When boiled pour off the water, and evaporate the moisture, by replacing the vessel, in which the potatoes were boiled, once more over the fire: this makes them remarkably dry and mealy."

SOLANUM.

(From the London Horticultural Register.)

DESTRUCTION OF BEES BY TOADS.

Benenden, Kent, June 11th, 1832.

The following account of the destruction of bees, by the common toad, (*Bufo Communis*) was sent me some time since by a friend, in the accuracy of whose observation I can confide. Should you deem it of sufficient interest to occupy a space in your *Register* it is much at your service; and I hope that it will be the means of eliciting further information from some of your correspondents.

G. BUCKLAND.

"As I was fetching some water from a pond, on the side of which grew a plant, called Water Betony, I observed a bee gathering from its flowers. Being curious to know whether the little industrious labourer came for honey, or merely to collect on its legs for the purpose of breeding, I observed it very attentively, and as it descended to the lower part of the flowers, I felt somewhat surprised that it had escaped my observation. While reflecting on this circumstance, another bee alighted on the top of the same plant, and proceeding, like the former one downwards, I heard a little smuck, and observed the bee go off the flower into a large cluster of grass. This excited my curiosity to see whether it went into the ground, and to my surprise, I found concealed under the grass a large toad, which was seated in a little hollow of the earth: I then felt quite satisfied, that the toad had devoured both the bees. About eight or ten days afterwards, in the evening of a very warm day, as I was standing to behold my bees return weary and heavy laden to their hives, (for when the sun is setting, they always appear weary and weakly,) I observed that several

dropped short of the landing board, and settled on the leaves of a mallow, which grew beneath the mouth of the hive. While thinking when they would rise, I heard a loud smack, and saw a bee go from the edge of a leaf into the mouth of a large toad, which was seated under the mallow, at the distance of seven inches from the bee. I then hastened for my uncle to come and see, which he did, and we suffered the same toad to suck in three more, the distance of one bee was nearly nine inches. The toad's mouth was so far opened, that I could see the bees in the mouth, before it closed, and I believe that they were swallowed whole."

Prices Current in New York, October 27.

Beeswax, yellow 18 a 20. Cotton, New Orleans 10 1/2 a 13 1/2; Upland, 10 1/2 a 12 1/2; Alabama, 10 1/2 a 12 1/2—Cotton Bagging, Hemp, 13 a 2 1/2; Flax 13 a 14 1/2; Flax, American, 7 a 9—Flaxseed, 7 bush clean—rough, 11 a 15 1/2; Flour, N. York, bbl. 6.00 a 6.25;—Canal, 6.25 a 6.37; Bbl. 11wd-st. 6.37 a —; Rhd. city mills, 6.57 a —; Country, 6.18 a 6.25; Alexandria, 6.52 a 6.62; Fredericksburg, 6.18 a 6.25; Peters, new, 6.12 a 6.25;—Kye Flour, 4.50 a —; Indian Meal, per bbl. 3.75 a — per hhd. 17.00 a —; Grain, Wheat, North, — a 1.18; Vir; 1.00 a 1.28; Rye, North, 75 a 87; Corn, Upl. Nor. 50 a 55;—Barley, 55 a —; Oats, Stb. and North, 40 a 45; Peas, white, dry, 7bu. 5. Beans, 7bu. 7.00 a 8.00; Provisions, Beef, mess — a 8.50; prime 3.37 a —; cargo — a —; Lard, 9 a —; Pork, mess, bbl. 14.00 a 14.50; prime 11.50 a 12.00.

MORUS MULTICAULIS, OR NEW CHINESE MULBERRY.

Superior to all others for Silkworms in these respects:—
1st. The stalk is low, and therefore the leaves are more easily gathered than from large trees.
2d. The leaves are large—from ten to fourteen inches long, and from eight to twelve broad, hence much of the usual labor of gathering is saved.

3d. A method of cultivation will be imparted to the purchaser of twenty trees at this establishment, by which he will in three years have a full supply of leaves for any desirable silk establishment.

A few hundred of these trees are for sale at the American Farmer Office and Seed Store, No. 16 South Calvert street, by I. J. HITCHCOCK.

PLANTATION FOR SALE.

The Subscriber offers for sale the plantation whereon he lately resided in Sassafras Neck, Cecil county, Maryland, one mile below Rose Hill, the seat of General Forman, and about fifteen miles below the mouth of the Chesapeake and Delaware Canal. It contains eight hundred and eight acres, of which about five hundred and fifty acres are arable, and for the most part in a high state of cultivation. The wood and timber abundant and fine. The quality of the soil is first rate, and little or none of the tract is waste. Its form is an oblong square, and is bounded on the South by Sassafras river, and on the north by Ponds creek, and may be said to be enclosed on two sides by water. On the tract is Ordinary Point, one of the most celebrated points for duck shooting, on Maryland, especially for canvasbacks. The situation is high, and commands a fine view of Turkey Point and the head waters of the Chesapeake bay, and is about mid-way between the Philadelphia, Brandywine and Baltimore markets, and has convenient landings for shipping the crops to either market. For the growth of Indian corn, wheat, timothy and clover, this farm is not surpassed on the Eastern Shore of Maryland, and as such offers the highest inducements to the farmer, the grazier, and the sportsman.

The improvements are a comfortable dwelling house, and other suitable buildings, a young apple and peach orchard, in full bearing, and a choice collection of other fruits. It will be sold low and the terms of payment made easy. To the capitalist it is an object for an investment, as the rents received will average per annum seven per cent. on the sum that would command it.

For further particulars apply to Levin Gale, Esq. Elkton; James Rogers, Esq. New Castle, or to William Cooke, Esq. Baltimore. Captain Craddock, residing on the place, will show it to persons desiring to see it.

O. HORSEY.

Sept. 7. St. Petersburg, Frederick Co. Maryland.

FRUIT AND ORNAMENTAL TREES.

The season for transplanting having now arrived the subscriber is prepared to execute orders for Trees of all kinds that grow in the United States. In this, as in all other departments of his business, he is determined to give entire satisfaction in every respect to all reasonable customers. Address I. J. HITCHCOCK, American Farmer office and Seed Store.

AGRICULTURAL IMPLEMENTS, &c.

SINCLAIR & MOORE, Pratt street wharf, have on hand a general assortment of articles in the agricultural line. It is their determination in order to devote more of their time to the improvement and careful manufacture of implements, and the production of the best articles in their line, to confine their sales to cash, or for acceptances in town; with a few exceptions where arrangements equally convenient are made for selling by wholesale.

GARDEN SEEDS.—A general assortment by wholesale and retail, warranted good. Their supply of seeds of the present year's growth is now coming in, and in a few days most of the articles in the seed line will be ready for sale.

FRUIT TREES, &c.—The season for transplanting fruit trees being nearly at hand, we invite those who intend to plant to send in their orders early, which will give the best opportunity of filling them to satisfaction. Trees will be carefully packed so as to carry safely, for which reasonable charges will be made.

DEVON CATTLE, &c. FOR SALE.

For Public Sale, at the Three Ton Tavern, in Pratt Street, on Saturday the 3d day of November, at twelve o'clock, a choice collection of Devon Cattle, also, Horses, Asses, and Rams of the Bakewell and Southdown breeds, viz.

Fifteen Cows of the full blooded Devon, from Mr. Coke's breed, of Holkham, in Great Britain.

Four Bulls of the same breed.

Twenty-five Heifers and Calves of the same breed.

The stud horse Hickory, five years old, of the blood of the imported horse Exile, from a mare got by the horse Hickory. This breed of horses unites the qualities of action, strength, and docility more than any other known breed.

Sundry Horses and Colts—and Rams.

A Jack of the breed of the Knight of Malta, and of the Royal Gift, five years old, and a good foal getter—his rice cost \$500.

Two Jennies of the same blood,—five years and three years old.

The terms of sale are, cash for any sum under \$100; and six months' credit for sums above \$100, with satisfactory security. ts Sep. 25.

AGRICULTURAL IMPLEMENTS AND FRESH GARDEN SEEDS.

The subscriber offers at his store and manufactory, No. 36 Pratt street, between Hanover and Charles streets, a great variety of AGRICULTURAL IMPLEMENTS, consisting of his Patent Cylindrical STRAW CUTTERS; Gideon Davis' Patent PLOUGHS, with cast and wrought shares, and Castings for the same to suit those worn out; Substratum and Shovel Ploughs; Harrows; Robbin's Patent Corn Planter; Corn Cultivators, Corn Shellers; Wheat Fans; Wire Saws, Hay and Manure Forks, by the single or dozen; Grass and Grain Scythes; Grain Cradles; Hay Rakes, Mattocks; Picks and Grubbing Hoes; Weeding and Hilling Hoes. A variety of Garden and Horticultural TOOLS, &c. &c. Those articles manufactured by himself special pains have been taken to procure the best materials and to have the work executed in the best manner.

Also, a great variety of GARDEN SEEDS, both European and American, and all of last year's growth, embracing a great variety of Beans, Cabbages, Radishes, late Peas, Bene Seed, &c. &c. And the following FIELD SEEDS, viz: Tall Meadow Oat Grass; Lucerne, of Prime Quality; Mangle Wurtzel, Ruta Baga; Large Yellow Pumpkin, by the quart or bushel; and White Italian Mulberry SEED, of prime quality.

Just received from Europe a supply of Fresh LUCERNE Seed of prime quality, which will be sold at market price; and also a quantity of White Italian Mulberry Seed fresh and of fine quality, at 50 cents per ounce. J. S. EASTMAN.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—A slight advance will be noticed in flour in consequence of the receipts being small. Our quotations of wheat should be considered nominal, as there is very little in market—to this cause also the present high rates of corn must be attributed. In other articles we find little worthy of particular notice.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 3.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a —.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 5.00. The inspections of the week comprise 455 hds. Md.; 35 hds. Ohio; 3 hds. Ken. and 2 hds. Penn.—total 495 hds.

FLOUR—best white wheat family, \$6.75 a 7.25; super Howard-street, 6.00 a 6.12 1/2; city mills, 5.75 a 5.87 1/2; city mills extra 6.01 a 6.12 1/2.—CORN MEAL bbl. 3.50.—GRAIN, best wheat, 1.10 a 1.12 1/2; white do 1.15 a 1.22.—CORN, white, 83 a 85, yellow 34 a 35; RYE, 65 a 68.—OATS, 36 a 37.—BEANS, 75 a 80.—PEAS, 65 a 70.—CLOVER—RED 2.00 a 2.25.—Timothy, — a —.—ORCHARD GRASS 2.00 a 2.25.—Tall Meadow Oat Grass 2.00 a 2.50.—Herd's, 75 a 87 1/2—Lucerne — a 74 lb.—BARLEY—FLAXSEED 1.50 a 1.62.—COTTON—Va. 8.10 a 10.00; Ala. 8 a 11 1/2—Tenn. 8 a 11.—N. Car. 8 a 10.—Upland 8 a 11 1/2—Whiskey, hds. 1.1 p. 32 a —, in bbls. 35 a 34.—Wool, Washed, Prime or Saxony Fleeced 45 a 50; American Full Blood, 35 a 42; three quarters do. 33 a 38; half do. 30 a 33; quarter do. 28 a 30; common 25 a 28. Unwashed, Prime or Saxony Fleeced, 25 a 30; American Full Blood, 22 a 25; three quarters do. 20 a 23; half do. 18 a 20; quarter do. 16 a 18; common, 16 a 18 Hemp, Russia, ton, \$210 a 225; Country, dew-rotted,—a 7c. lb. water-rotted, 7a 8c.—Feathers, 36 a 37 1/2; Plaster Paris, per ton, — a 4.37 1/2, ground, 1.50 a —; bbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 75.00 a 85.00.—Prime Beef on the hoof, 5.00 a 5.50.—Oak wood, 3.37 a 3.75; Hickory, 4.50 a 5.00; Pine, 2.25.

CONTENTS OF THIS NUMBER.

Editorial: American Silk; Native Silkworms—American Wine—Durable Fence—Filtering Stones—Foreign Markets—Communication of E. Ruffin on the Use and Application of Lime as a Manure; its Utility as a Manure in general; Different Results of its Application given; to what Crops and in what Mode Lime is most Advantageously Applied—The Weevil; its not Appearing in the Wheat in parts of Virginia this Season to be Accounted for; how to Destroy it—On the Culture of Rice, by J. Bryan, continued; Planting, Hoeing, Watering, Harvesting—Sketch of the History of the Dahlia—Two Broods of Cocoons Reared in one Season; Advantages of the Morus Multicaulis—Exhibition of Flowers in New York—On the Culture of the Horse Radish—Method of Cooking Tomatoes—Prevention of Bots in Horses—Irish Mode of Cooking Potatoes—Destruction of Bees by Toads—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

GENERAL

Agricultural and Horticultural Establishment COMPRISING,

A Seed and Implement Store, a General Agricultural Agency, and the Office of the AMERICAN FARMER, at No. 16 South Calvert street, Baltimore: in connexion with a Stock and Experimental Farm, Garden and Nursery in the vicinity.

For an extra number of the Farmer, containing a prospectus of the "Establishment," and a "Catalogue of Seeds," kept for sale, shall be sent GRATIS to any person who shall by mail or otherwise furnish his address for that purpose.

AGENTS FOR THE FARMER.—All postmasters are requested to act as agents for the Farmer, and to require a strict compliance by subscribers with the terms, especially the third item. They are authorised to retain one dollar for each new subscriber, and ten per cent. on all other collections. This list of special agents is published in the Farmer every third week. (Terms next week.)

DIRECTION OF LETTERS.—Address all BUSINESS letters concerning the Farmer, the store, or the agency, to the proprietor, "I. Irvine Hitchcock, Baltimore, Md."

Printed by J. D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, NOVEMBER 9, 1832.

MALE AND FEMALE PLANTS—MACLURA.—A respected correspondent mentions a curious fact relative to producing both male and female plants from a female dioecious tree, by means of cuttings. He says the maclura tree, now producing male flowers in the garden of the late Mr. McMahon of Philadelphia, and the one he sold to Gen. Forman of Cecil co. Md. were both raised from cuttings taken from a female tree. Mr. McMahon's original trees all proved to be females, and from them he took the cuttings. But may there not be some error in the classification of the maclura and some other trees, now considered dioecious? London, and some other botanists, locate the maclura and the morus in monœcia, and from what we have seen of the latter we are inclined to think them correct. We know of several individual mulberry trees that bear perfect seeds, that are not in the neighborhood of any other. Furthermore, we know that a mulberry tree will bear imperfect seeds one year and perfect seeds another. We also know, that the female maclura bears fruit, to all appearance perfect, without the assistance of a male tree; and we believe it is not common with dioecious female plants to bear fruit and seed vessels, unless they are enabled to supply them with seeds. The maclura tree with which we are acquainted, regularly bears fruit; but it is certain that our season is not long enough for its perfection, as it is uniformly overtaken by hard frost while in a growing state. May it not then be considered probable that the maclura is a monœcious and not a dioecious plant, and that this accounts for the fact, that the trees called male were raised by cuttings from those supposed to be female? Young monœcious plants, it is well known, are often barren. Mulberry trees are often barren for the first ten or fifteen years, and are then called males; but their subsequent fruitfulness corrects the error. The fact, therefore, that cuttings from a female maclura, produced male plants, will induce us to consider the tree monœcious at least till better advised.

There is an instance of error very extensive relative to male and female plants. It is that there are male and female plants in the family of strawberries. Some kinds of strawberries particularly, are considered dioecious, and we often hear gardeners say they plant so many male plants to such a proportion of females. This is pretty clearly a popular error. Among all the varieties of the strawberry there are always more or less of barren plants, but these are not necessary to the fructification of the others; but, on the contrary, should be destroyed, for they multiply much more abundantly than fruitful plants, and will soon predominate if left growing. The strawberry clearly belongs to the 12th class—having more than twelve stamens, or male organs, and many styles or female organs, in the same flower. All plants, therefore, that bear fruit, are supplied with the proper number of stamens in the same flower with the styles; but in those which are barren, the stamens are so numerous that the styles appear to be smothered, or are probably superseded by them; they are also of inordinate length, and can thus be detected when the plants are in flower.

CHEAT, DARNEL AND THISTLES.—The readers of the American Farmer will find some excellent remarks on cheat and darnel, in the communication of E. R. in another column. The mode to which E. R. attributes the introduction of darnel into Virginia, is probably the true one; and by similar means it has no doubt been scattered along the whole American coast. This is one of the drawbacks from the advantages of commerce with other countries.

The Spanish thistle, noticed by E. R. is also an evil that will yet be felt with terrible force, if it be

not soon exterminated. All cities that have commerce with Spanish ports, are continually receiving the seeds of this pest. Some twenty years ago we saw a few plants of it in a vacant lot on Fell's Point.—Twelve years ago it had completely filled the lot, and it is now to be seen on all the roads leading from Baltimore for several miles. It cannot now be exterminated except by public means. Thistles, however, are only injurious to pastures and meadows, as in cultivated grounds they are readily destroyed by the necessary operation of the plough, harrow and hoe. In pastures and meadows, a couple of boys will clear a hundred acres, in the months of July and August, by going over them every day and cutting down all that are in flower; but this is of no use unless all adjoining lands are in like manner operated on, as the wind will carry the seed for miles.

Our correspondent E. R. takes a correct view of the subject of the origin of cheat, and of the evil of the popular opinion that it is degenerated wheat.—So long as this opinion prevails so long will this evil grow upon us, till the culture of wheat itself will have to be abandoned. We hope our readers will give due consideration to the remedy proposed by E. R. It may not be considered practicable; but there is nothing more apparent than that some such remedy must be resorted to sooner or later.

DAHLIAS.—We shall be much obliged to D*** for the list of French Dahlias he offers us. His history of the Dahlia is an interesting article to florists.

SPORTS OF NATURE.—Having matched the later strawberries and big pumpkins paraded by the *American Farmer*, there now lies before us staring us in the face, a specimen of the vagaries of vegetation which it would puzzle the editor of that valuable work to produce the fellow of. It has a veritable pair of eyes, arched eyebrows, nose, nostrils, forehead, chin, cheeks, ears and mouth that would be pronounced animal, and might almost be sworn to before a jury, and yet is not animal, but a bonafide POTATO.

(Maryland Republican.)

[No indeed, friend Hughes, we can't match that;—all our productions, with such features, being of a very different species.—If there be no danger to be apprehended from the prying curiosity of its eyes and ears, nor from the voracity of its mouth, we should be very glad if friend H. would put it on board of the packet and let it pay us a visit.—*Ed. Am. Farmer.*]

(For the American Farmer.)

FREAKS OF NATURE.

I have read with interest N. Herbemont's account of the Angora cat, as exemplifying a remarkable principle in breeding. A case very similar has come under my notice. Some years ago, I had a mare remarkable for the length of her body, the shortness of her legs, the thickness and strength of the hair on her mane and tail, and a peculiar cast of countenance of which it would be difficult to give the reader any proper conception. Through an accidental exposure, she became with foal by a young horse of very ordinary appearance and properties; and her offspring,—a mare,—had none of the peculiarities of the dam. Comparatively she had a short body, long legs, thin and delicate hair on her mane and tail, and nothing remarkable about her head and countenance. I have her still in my possession. By a valuable horse, she has had a colt which resembles her in disposition, but in nothing else; while his resemblance to his grandam is so great that were she living it would be difficult to distinguish them at a little distance at first sight. I think of her every time that I see him; and wonder how such peculiarities could remain concealed in his dam; and how they could be transmitted through such a medium to him.

AN AMERICAN FARMER.

(From the New England Farmer.)

WOOL.

At New York last week, the increased activity had been continued, notwithstanding the reluctance to pay the present prices: the market was better supplied, the arrivals from the country being more free. At Philadelphia, the few sales reported were of the finer descriptions at something higher prices; these descriptions were in good request, but the coarser kinds were dull of sale. Public sales are advertised of 120 bales Spanish and 50 bales Portuguese, on the 13th at Philadelphia, and a few bales Saxony lambs and sheep on the same day at New York. A London date of 31st August, says—"The first of a series of sales of colonial and other wools took place yesterday, and was fully attended by the manufacturers and others. The Australian were generally of improved quality, and much spirit was displayed at the sale. Of Australian 825 bales were put up, and lower qualities sold at 1s 4d to 1s 9d: better fleeces 1s 10d to 2s 3d, and some fine samples realized 2s 4d to 2s 7½d, the last lots being exceedingly good. The sale went off briskly. The German and Portugal wools fetched good prices also.

(From the New York Journal of Commerce.)

NEW YORK GRAIN MARKET.

The condition of our corn exchange disappoints the expectations of all persons engaged in the trade.—The crop of wheat was known to be remarkably excellent in quality and abundant in quantity, both at the south and the west. The crops of coarse grain were also in general good. The crops of Europe being good, so that no demand could be expected from that quarter, it was confidently anticipated that our market would be abundantly supplied, and that prices would be low. But so far is this anticipation from being realized, that no short crops have ever produced so scanty supplies. Our market is absolutely bare of all sorts of bread stuffs, and prices are extremely high. But fifteen days more remain before the boats are to be withdrawn from the great western canal: so that it will be almost impossible to receive any adequate supplies from that source.

We have heard no satisfactory explanation of the causes of this singular and undesirable state of things. The Cholera has undoubtedly been one of the principal hindrances to supply. Prices have been high through the season, but have failed to produce their universal effect, of bringing supplies to market.

FOREIGN MARKETS.

LONDON GRAIN MARKET.

More than 100,000 quarters of wheat, and 58,000 cwt. of flour, have recently, it appears, been entered for home consumption. At the present high rate of duty, they will produce nearly £150,000 to the revenue, and will prove a very unexpected aid to Ministers, who, in consequence of the abundant harvest, had not calculated on any accession through the duties on grain and flour. The holders of the corn, thus brought forward for home consumption will, of course, suffer a heavy loss, but they have no doubt found in the present low price of grain all over Europe, that this was the only mode left to obtain a market for it. In rice there is no alteration.

COTTON MARKET, LIVERPOOL, Sept. 22, 1832.

We have again had a large business in our cotton market this week, the sales of all sorts amounting to about 27,370 bales. The feeling of the market has been precisely the same as that of last week; with perhaps a little increase of confidence, arising out of our continued small supply and better business done at Manchester on Tuesday last.

The sales of the week as follow, in Am. sorts:—630 Sea Island 11½ a 18; 130 stained 5½ a 9; 10,200 Upland 6½ a 7½, 140 8d; 6700 Orleans 6½ a 8½; 3740 Tennessee, &c. 6 3-8 a 7½.

AGRICULTURE.

DARNEL AND CHEAT.

Prince George County, Va.)
Oct. 23, 1832.]

Mr. Smith:

When I sent to you for examination a head of *darnel*, or what is here called *spelt*, I was surprised to learn from your answer that its existence in this country is so limited, as it must be, as it had not before fallen under your observation. It is a subject for congratulation, that our country generally is yet free from the worst pest that attends the cultivation of wheat. As soon as I was informed by you that our *spelt* was the English weed *darnel*, I immediately attributed its presence here, to the importation of English racheorses, which have been frequently landed at City Point in this county; and *darnel* was no doubt brought in their oats and litter, and by that means scattered over our country. By the way, a Spanish thistle full of burrs and sharp thorns, was brought to the same place, and also to Petersburg, in the fleeces of merino sheep, and having been permitted by neglect to spread, threatens to add another serious and endless annoyance to our farming. Though *darnel* has not been known here so long as twenty years, as a considerable injury to wheat, yet the opinion is already prevalent that this plant, like *cheat*, is merely degenerated wheat. These erroneous opinions are calculated to repress all vigorous efforts to root out the evil; and if *darnel* should be allowed to spread throughout the country, it will be impossible to get rid of it. By great care, perhaps we may relieve ourselves of these pests, if the attempt is made without more delay. Nothing will clear land already set with *darnel*, but carefully pulling every plant out of the crops of wheat, and sowing perfectly clean seed.

Darnel is poisonous in a very high degree. I have heard from good authority, of three several cases in this county of persons being made alarmingly ill by eating a single meal of bread made of wheat containing a large proportion of *darnel*. They were immediately seized with violent sickness of the stomach, convulsed limbs, &c. and it was thought by those who witnessed the effect, that nothing but the speedy use of active medicine, saved the lives of the persons so affected.

We farmers are apt to complain of the millers, for the many and strong objections that they make to the condition of our wheat when offered to them for sale,—and we complain with some reason, because such objections are urged irregularly, capriciously, and are very much influenced by the demand and price. But if some fixed and regular rule could be adopted, which would impose a heavy but uniform penalty on the farmer for every kind of impurity in his wheat, I have no doubt but it would be ultimately, if not immediately, beneficial to every farmer, as well as to the miller, and to the whole region of country in which the rule was adopted, by raising to the highest grade the character of its wheat and flour. When wheat of average quality sells for one dollar the bushel, a crop free from all impurity ought to be worth ten cents more; and the foulest that would be considered “merchantable,” would be worth ten cents less—making a difference of twenty cents between the best and worst quality. If prices were always proportioned to these values, the difference would be a sufficient premium for the care necessary to keep crops clean. But unfortunately such is not the case. The purchaser will readily admit that there is this great difference in the intrinsic worth of the best and worst wheat; but his prices must be regulated by his expected sales—and he cannot afford to add to the average price above five cents for the best, nor need he deduct more than the same amount from the worst. Thus the average quality of wheat in any certain market, serves in a great measure to fix, or to approximate to it, the prices of both the best and worst crops. Therefore, the most slovenly farmer gets for his wheat

five cents more than its intrinsic value, and he who sells perfectly clean wheat, gets five cents less. This state of things amounts to a bounty being offered for foul crops.

A remedy for this evil, and a great and rapid improvement in the general quality and cleanness of our wheat, might probably be effected by something like the following plan: Suppose the millers of some considerable wheat market, together with some of the principal farmers who usually supply them, to consult and agree upon the full value of the injury that would be caused to clean wheat, by admixtures of either cockle, garlic, cheat, *darnel*, &c. For example it might be agreed that in a sample of one pound of wheat, it should be considered that ten grains of wheat should be deducted as a fair equivalent for the presence of one grain of *darnel*, or for two of garlic, three of cheat or cockle, or for ten of oats or rye, besides all the impurities so found; and that a proportional deduction shall be made from the price offered for pure or clean wheat. The selection of fair samples, and the trial of them, would be troublesome, it is true; but much less so than the usual chaffering, and the frequent dissatisfaction caused by the want of fixed and certain rules.

Let us now suppose some such *tariff of filth* to be in operation, and observe its probable effect. Suppose that without such regulations, the demand for flour would have fixed the price of wheat of middling or average quality at one dollar; and that the amount of impurities in the sample, rated as proposed, would take off ten cents from the bushel. It may be considered by many that this would reduce the market price to ninety cents. Not so: the effect would be to raise the market price to one dollar and ten cents, which would be obtained by the few who could offer clean wheat—and from which the seller of average wheat would still obtain one dollar, after having ten cents deducted—and the foulest crops might suffer a deduction of twenty to thirty cents. The average of all the prices would remain the same, but would be equitably proportioned to the value of each crop—and thus hold out the strongest inducements to every farmer to aid in improving the quality and character of the wheat of the country at large.

Unless most of the farmers of a particular district unite in the endeavour to root out cheat and *darnel*, it will scarcely be possible for any one to succeed in the attempt. Persons who have always sowed clean wheat, (or at least supposed so,) cannot conceive how the seed of cheat or *darnel* could get upon their fields, and therefore attribute their appearance to a transformation from wheat. But without resorting to this mode of explaining the fact, there are abundant means by which a farm may be supplied with these pests, if they are abundant in the adjacent country. From various reasons, most farmers frequently procure seed wheat by purchase—and it is already almost impossible to obtain any near this county, entirely free from both cheat and *darnel*. It is true that there are plenty of crops that are called clean—and few will deny them that character, if they contain only one grain of cheat in a handful of wheat; yet that small proportion would furnish a flourishing plant of cheat for every cast of the sower, and insure a much greater proportion in the next crop. Being subject to none of the many disasters that destroy so large a proportion of the plants of wheat, the hardy cheat and *darnel* show an increase of quantity in every successive crop, though much the greater part of their seeds are fanned and screened from the seed wheat. But this is not all. The grains of cheat and *darnel* left by the fanner in the chaf, and *tail-cuds* wheat, are given in feed to hogs and other stock; and from their hard and firm covering, they frequently, if not generally, pass through the animals uninjured, to grow wherever dropped. This perhaps prevents *darnel* being as poisonous to beasts as it is to man. Many of both these seeds are also left in the straw, and carried out with the manure made from it. If the manure is

well heated by being heaped to ferment; only all the seeds in the outer parts of the heap will germinate—or the whole will, if carried out in unrotted manure. If it is ploughed in a good depth, the seeds of *darnel* and cheat will remain without sprouting a year, as I have experienced, and perhaps much longer, and grow when afterwards brought near enough to the surface. Thus when manure containing those seeds is ploughed in for corn, the best tillage and weeding may not prevent their springing plentifully among the succeeding crops of wheat. For these and other reasons, if cheat and *darnel* get on any part of a farm, they will soon spread to every acre, if great care is not used to arrest their progress.

But suppose a farmer by extraordinary care and labor to eradicate these pests, and to avoid every act by which he may introduce them again. Still by various means he will be in danger of receiving other supplies. He cannot avoid visits from his neighbors' horses, oxen, and sometimes stray hogs, carrying the seed in their bowels, and bestowing them wherever they go. Nor can he avoid lending his wheat bags, and his fanner, all of which are likely, and the last is sure to be returned with cheat or *darnel*, unless the contents are sowed over his farm, as they are jolted homeward. Your regular borrowers of fannills are generally well stocked with cheat and *darnel*. These chances for a supply are greatly increased if a private road for neighborhood use passes through a farm; and still more, if a stream, subject to overflow low grounds, and which has traversed other farms above.

E. R.

(From the New England Farmer.)

BRIGHTON CATTLE SHOW.

This festival was celebrated on the 17th inst. with the accustomed exhibitions of lookers-on, and things to be looked on. The day was one of the finest of our beautiful autumns, and the concourse of spectators was large and respectable. The Ploughing Match and the trial of strength of the Working Oxen were of the first order. The number of animals exhibited was less than on some former occasions, but those which were shown were indicative of improvements in their respective races. There were some first rate Swine, but their number was small.

The exhibition of Manufactures was few and mostly of such as were the product of household industry, and the skill and taste of the fair females of New England. Since the establishment of the great semi-annual sales of Manufactures by the New England Society, not much has been expected to be exhibited at Brighton, of cotton and woollen goods. It will be recollected, that a portion of the most efficient action of the Society is exerted in a way, that makes no appearance at this festival. We mean the encouragement given to the *general care and cultivation of entire farms*. This part of the show of the Society must be sought and will be found, all over the Commonwealth. The report of the Committee on Farms is to be made in December.

One proof of the excellence of the Show is found in the fact, that every premium proposed to be paid on animals was awarded.

After the announcement of the premiums an exceedingly interesting and judicious discourse was delivered by the Hon. JAMES RICHARDSON, of Dedham. It was replete with sound and ingenious observations, well arranged and digested; and would with a little more force of utterance, have produced great effect. It will be found on perusal, in the closet, every way worthy of its respectable author.

OFFICIAL REPORTS OF THE BRIGHTON CATTLE SHOW.

Fat Cattle, Bulls, and Bull Calves.

The committee, consisting of John Lowell, Lewis Barnard of Worcester and Aaron Kingsbury of Roxbury, ask leave to report, that the show of fat cattle

was fully equal to the average of the same description of animals heretofore exhibited at the Brighton shows. If they were not equal in bulk to the celebrated Magnus and Maximus, they were as heavy as the English graziers ever wish to exhibit. The lightest animal in the list weighed over 2000 lbs. live weight. It has long been the avowed principle of the Society, not to give any preference to weight simply, but to consider it as *only one* of the elements by which the premium was to be decided. Form, proportion of valuable pieces, smallness of offal, profitable fat, cheapness in feeding, or the superior disposition of the animal to acquire fat, have been justly deemed in England, and in this country, to be the most important points. It is to Bakewell, we owe this judicious mode of valuing animals. It is to him we owe the maxim, that it is not the *largest* but the *animal*, who will give the greatest amount of valuable food, with the least expense, which merits premium. In pursuance of this principle, the committee awarded to William Eager of Northborough the first premium of twenty-five dollars for his least ox weighing only 2013 pounds, while we gave no premium to his mate who weighed 2070. There could be here no favoritism because both animals belonged to the same person.

The second premium for fat cattle, being twenty dollars, we awarded to Ichabod Stow, of Stow.

The third premium for fat cattle, being ten dollars, we awarded to William Wetherbee of Marlborough.

The bulls offered for premium were numerous, no less than twelve in number, and were many of them very respectable as to their points and promise.—Perhaps we should have thought them excellent, if the full blooded bull from Admiral and Annabella had not been exhibited. He was so decidedly superior, and attracted such universal attention, that it was not possible not to perceive, that the race of pure blood is very superior (at least) for males.

The committee awarded the first prize for bulls to Roswell Conners of New Braintree, twenty dollars. The second they awarded to William Worthington of Dorchester, ten dollars.

The bulls of Mr. Shurtleff, Mr. Chamberlain of Westborough, and Mr. Howard were highly worthy of notice, and we are indebted to these gentlemen for the patriotism in showing what a fine stock the state possesses.

The committee regret, that they cannot say as much in favor of the bull calves. They were some of them very pretty, but not so superior as to be the subjects of premium. For the first time, in twelve or fifteen years, this society is obliged, in compliance with its settled principles, to withhold, altogether, its premiums for bull calves. To what is this falling off to be attributed? to very natural causes. When the fine animals of improved herds were first imported they remained in the vicinity. Amateurs took the advantage, and raised fine bulls—but in the long run, animals cannot, and will not be raised within sight of the city smoke, and as no man from the interior could afford to send a bull calf, instead of being the best, they will be hereafter the worst description of stock at Brighton.

The noble exhibition of the Hon. John Welles and of Ezekiel Hersy Derby, of pure, nearly pure, and variously mixed European breeds, gave the highest interest to the show. If skeptics doubted before, most assuredly, the public had no doubts on this occasion. The general voice settled the point. There was nobody to trumpet them. The committee did not notice them till they had completed their other duties, yet with all the aid of the marshals, it was (after three hours) very difficult to get at them, such was the concourse of admirers. Whence this universal eagerness? was it because they were in high condition? No, because with the exception of Mr. Derby's bull Young Comet, they were not so. No. It was the beauty of their forms. Such was the declared con-

viction of my respectable colleagues, Mr. Barnard and Mr. Kingsbury, men of great experience, the one as a vender, the other as a purchaser of stock. It is not our business to compare the stock of Mr. Welles and Mr. Derby, there are many reasons why we should not do so. Unquestionably the finest animal on the field was Mr. Derby's full blooded Shorthorned bull. But Mr. Welles had no bull of his stock of equal value with whom the other could be compared.—The females of the two stocks were more easily compared and it would require a very nice judgment to decide between them. There is no question that both stocks are invaluable to this growing country. Col. Jaques, with his usual spirit and patriotism, very essentially contributed to the interest of the show by the exhibition of the fine full blooded horse Sportsman, of the Eclipse race—by his noble and powerful Roman, Canadian stallion, and by Mr. Sprague's invaluable present to his country, of a full blooded Arabian stud horse.

JOHN LOWELL, per order.

The Committee on Domestic Manufactures, respectfully report,

That no articles were presented to them for which a premium had been offered by the Society. They, therefore, as a compliment to the industry, ingenuity, and public spirit of those who had sent articles for reward or exhibition, recommend several *gratuities*. The articles of silk manufacture were by far the most important in the prospect of permanent benefit to the country, from the enterprise and experiment. They were entered by J. H. Cobb, Esq. of Dedham, the indefatigable and successful promoter of the culture of silk, from the rearing of the worm to the finish of the loom. Among the articles, were substantial silk stockings of American manufacture, as well the raw material as the fabric. Silk furniture binding, suspender webbing, handkerchiefs, and also florentine, a fabric of silk and cotton. The palm leaf hats and straw bonnets, were of beautiful workmanship, and in fine taste; this delicate and useful manufacture has already attained great perfection. A rich and gorgeous shell comb, made to order for South America, of the value of fifty dollars, was offered for exhibition by Mr. Isaac Davis, the manufacturer, as a specimen of skill and ingenuity in that branch of industry. The house made woollen socks, were remarkably well woven, of the softest wool. They were, indeed, proofs of labor and perseverance highly commendable, from children of six years old, to those whose years often render them helpless—from those whose leisure allowed them to make heavy hearth rugs with "their fingers," to those whose duties in the chambers of the sick had given them only the "watches of the night" for the exercise of their industry.

The following are some of the gratuities recommended:

For one pair of rose blankets, Mrs. Stephen Fay, New Braintree, \$2; silk hose, with other useful articles of silk manufacture, Jonathan H. Cobb, Dedham, \$20.

Respectfully,
BENJAMIN GOULD, } Committee.
ROBERT WATERSTON, }

The Committee on Sheep and Swine have attended to their duty, and ask leave to report,

That they found the swine few in number, but good in quality—that the show of sheep was small, but those of the Dishley and Southdown breeds were good, of genuine blood, and they award as follows:—

To Enoch Silsby for the best Dishley ram, the premium of \$20.

To Enoch Silsby for the best Dishley ewe, the premium of \$20.

To Samuel Jaques for the best Southdown ram, the premium of \$20.

To Samuel Jaques for the best Southdown ewe, the premium of \$20.

To John Mackay for the best boar, two years old, the 1st premium of \$12.

To John Mackay for the next best boar, eleven months old, the 2d premium of \$8.

To George M. Barrett for the third best boar, five months old, the premium of \$5.

To John Mackay for the best sow, four months old, 1st premium of \$12.

To Isaac Robbins for next best sow, the 2d premium of \$8.

To John Mackay for the next best sow, two years old, the 3d premium of \$5.

To Isaac Robbins for the best pigs, the 1st premium of \$10.

To John Mackay for next best pigs, the 2d premium of \$5.

Per order,

I. THORNDIKE, Chairman.
BENJAMIN SHURTLEFF.

The Committee on Working Oxen, award the following premiums:

1st, To Silas Conant of Concord, \$25. 2d. Royal T. Marble, Sutton, \$20. 3d. Sherman Barrett of Concord, \$15. 4th. Paul Learned, Watertown, \$12. 5th. George M. Barrett, Concord, \$8.

Respectfully submitted,

LUKE FISKE, for the Committee.

The Committee on Butter and Cheese report,

That they have awarded the first premium on butter, of \$20, to Luther Chamberlain of Westborough; second premium of \$15, to Stephen Hastings of Sterling. There were two kegs of butter, (entry No. 9,) of very excellent quality, but too much salted.

First premium on old cheese, of \$20, to Daniel Hunter of New Braintree; second premium of \$15 to Hollis Tidd of New Braintree.

First premium on new cheese, of \$10, to Roswell Converse of New Braintree; second premium of \$5, to Luther Hunter of New Braintree.

For the greatest quantity of butter and cheese made between the 15th of May and the 1st of October, premium of \$20 to Luther Chamberlain of Westborough—2626 pounds of butter, and 5420 pounds of cheese, from twenty-seven cows.

(From the New England Farmer.)

AGRICULTURAL ESSAYS.

Mr. Editor,—On looking over some old pamphlets lately, I have found one entitled an *Address to Farmers*, printed at Newburyport, nearly forty years ago. It is written in a plain, concise style, and is replete with valuable suggestions on the subject of agriculture and good husbandry. A manuscript note on the 3d title page, says it was written by the late Rev. Nathaniel Fisher, of Salem. Among the subjects discussed, the following I think well worthy republication in the New England Farmer: The Character of a Complete Farmer; the Importance of Manure; Labor Exchanging Work; the Advantages of an Orchard; the Management of Cider; Keeping a Day Book; Contracting Duties; Clothing and Diet; Engaging in Law Suits; Good Neighborhood; Education; Remarks on the most approved methods for the management of Tilling, Mowing, and Pasture lands, &c. I would suggest the propriety of copying one or two of the above essays weekly till finished.

THE CHARACTER OF A COMPLETE FARMER.

A complete farmer is a most careful, industrious and frugal, as well as reputable and useful man; and unless carefulness, industry and economy are united in the character, it will be an imperfect one. Although a farmer cannot live without labor, by labor alone he never can grow rich and reputable. Much depends upon his *laying out and performing certain kinds of labor in the times and seasons when they ought to be performed*. If he will not cart out his summer dung, nor plough those lands in the fall, which he means to

feed in the following spring—if he will not put his seeds into the ground early, and as soon as the season will admit—if he will not attend to his fences and see that they are sufficient; and if he will not cut his grass when it is ripe and do every thing necessary to secure it in good order; he will be perpetually hurried from one kind of labor to another and every one will be slightly: his flax will not be well coated, nor his grain properly filled out; his corn will be shortened for want of being well hoed, and his grass will become dead, and dry away in the field. Let every kind of labor, therefore, be performed in due season. A complete farmer is also a man of great carefulness and solicitude; without care, the severest labor on the best of farms, will never produce riches nor plenty. If the farmer will not milk his cows in season; see that they are properly tended; go to the male in the right time for the next year's profit; and that his dairy is neatly and carefully managed, he may labor without ceasing, will have a small, poor breed of cattle, and never enjoy a fulness of good butter and cheese. It is care which makes a flock increase and grow to a good size, which brings forth the profits of a dairy, and which fills the house of the farmer with good things. If he will not carefully inspect his fields and meadows, and see that his fences are in good order, his grass and his corn will be cropt by his cattle: and if he will not gather and put them up carefully and in due season, he will have a short and moldy crop. If he mows, rakes, and fodders his cattle in a careless, slovenly manner, his flock will be pinched through the winter, and become poor and lousy in the spring; poor oxen, too poor to do the labor of the season; poor cows, with little or no milk, and wretched calves and poor horses, too feeble to draw, and too weak to ride with safety. If his swine, poultry and stock in general, and if his carts, rakes and tools of all kinds, are not carefully attended to, the farmer never can grow rich and respectable. It is *attention* which gradually collects from various sources, and covers the soil with manure; it is attention which causes the hills, fields and valleys to yield their increase, and advances and completes the most beneficial improvements.

There is a third virtue without the practice of which, the farmer can never attain to wealth and independence: I mean *economy*. Without this, both labor in raising, and care in preserving the fruits of the earth, are absolutely thrown away. Economy is an excellent virtue in any man: it is indispensable in the affairs and profession of a farmer. And of this he should never be unmindful when he looks into his barn, his cellar, or his garret, or even his pastures; to say nothing of his fields, mowing lands and meadows. But farmers, as well as other men, are too apt to forget, that in their pursuits after riches, almost every thing depends upon economy joined with care and industry.

A frugal, industrious man, blessed with but a common share of understanding, will undoubtedly succeed and advance his interest, beyond whatever he expected, when he first set out in life; provided no singular providential evil should overtake him.—More is gained by saving than by hard labor. A farmer, therefore, whose utmost profits are small and slow, as he cannot grow rich suddenly from his profession, should be a rigid and steady economist. He should consider the saving he may make in every thing; in his fuel, tools, clothes, meat, drink, and pocket expenses; above all in his time, which is equal to so much money in hand. Every day that his neighbor runs down to market on his horse, with a pound or two of butter and a few eggs, if he stays at home and keeps steady to his labor, he gets two, if not three days the start of him. While his neighbor wastes his time and spends his money by his imprudent and trifling pursuit, he saves both time and money, in dressing and improving his lands, and which demand all his attention. There is no leisure hour to be found on a farm from early in the spring, till late in the fall. Through all that whole

period, a good farmer knows how to spend every hour profitably on his lands. He can have no time to pass in idleness; in chatting with people as they pass by; in making needless visits; in attending courts, borseaces, taverns, and the like. By these means the public is annually deprived of many thousands of bushels of potatoes, corn, ions of hay, &c. and individuals themselves become poor, and fall into the worst of habits—into idleness, gaming, drinking, &c.

There is no kind of economy in the farmer, which will not be well rewarded. Early rising will contribute to his health, and preserve his fields from the inroads of unruly creatures, which commonly begin their trespasses just as the day begins to dawn.—Close mowing and careful raking, will enable him to winter one cow extraordinary. Feeding his hogs by weeds and other vegetable substances, will enable him to pay his shoemakers. Scrapping his door and barn yards, after rains and showers, will clothe his boy. Saving his early apples, and which are commonly lost entirely, will pay his tailor; his poultry well attended, will pay his maid. His calves will pay all his taxes, and some part of his hired labor, if proper care be taken of them. In fine, let a farmer who possesses only fifty acres of good land, who owes no man, and who has a common blessing on the labors of his hands, strictly attend to the management of his affairs, live a life of patient industry, and practice agreeable to the principles of economy, and I think he may live well—may be excused the hardest of labor; leave his hoe and spade to the next generation, by the time he has been fifty years, when most men begin to think of comfort, ease and independence.

(For the American Farmer.)

CHEAT AGAIN.

The writer who signs "Fair Play," has presented an imposing array of certificates to prove that wheat turns into cheat. These form the best part of the communication; and the only part that I can notice with that courtesy which writers on speculative subjects, ought to preserve towards one another. The certificates, however, fall far short of proving the transformation. Wheat, while in a growing state, was in some instances cut down in order to see if it would turn into cheat—and cheat, sure enough! was found there at harvest. The only safe inference to be drawn from these statements, is, that the destruction of the wheat made room for the cheat to flourish.

In Dr. Muse's experiment, there was cheat in his garden where the wheat was cut down, and he knew not how it got there, unless the wheat had turned into cheat. In another certificate the evidence is more positive. Some eight or ten persons, probably all staunch believers in transmutation, saw the cheat growing from the roots of the wheat! Possibly it did not occur to them that plants of wheat and cheat, though very different in their natures, might grow together so interlaced, as not easily to admit of separation. I do not suspect them in the least of wishing to make a false statement; but, from liability to error, their testimony would be very slender authority for rejecting one of the most general and best determined of nature's laws.

A friend of mine who wanted seed wheat was induced to go eight or ten miles to an acquaintance's who had said his wheat was very clean. The grain proved to be plump, and the appearance fine; but on spreading a handful on the barn floor, my friend picked out more than twenty grains of cheat. The farmer frankly acknowledged that such wheat was unfit to be sown, and that he never knew before why his fields produced so much cheat. He had thought that his wheat must have turned into it, but this new evidence staggered his faith in the doctrine.

Hundreds of our farmers saw what they call clean seed wheat, from each handful of which more than a dozen grains of cheat might be picked; and they cannot account for the produce on any other principle than

that wheat turns into cheat. That such seed wheat spilled on hard ground or the road side should yield cheat at harvest, ought to be no object of special wonder.

For B. whose essay was copied from the *New York Farmer*, I entertain a high respect; but, if I mistake not, his great strength lies in other things than researches in modern botany. He has sacrificed his philosophy on the altar of expedients without any adequate consideration; for all his difficulties appear to admit of easy explanations. His declaration is the more remarkable, because he corresponds with some of the first agriculturists in Europe, who would have told him had he inquired of them, that wheat is not supposed to turn into cheat on the other side of the Atlantic; and that it is nothing but a Yankee notion.

SENEX.

WHEAT,—IMPORTANT DISCOVERY.

Last spring, we published some suggestions on the late sowing of spring wheat, as a means of saving it from the ravages of the little yellow worm, which some incorrectly call the *wecril*. A number of our subscribers tried the experiment, and, so far as we have heard, with entire success. A farmer in Orange County told us that he sowed one acre of spring wheat, ten days later than the rest in the same field. The first sowed was seriously injured, the last not at all. Several, in several towns, made similar statements.

It has been observed, from the first appearance of this insect, that the earliest winter wheat was less injured by its attacks than any other. It is evident, therefore, that the time of laying the eggs is short. It is, probably, soon after the heads make their appearance. Before they are defended by the leaf which incloses them; and when they appear, most probably, the husk soon becomes so hard that the insect cannot pierce it, to deposit her eggs upon the kernel. We have, then, only to ascertain the time, as exactly as we can, in which the injury is done, and have our winter wheat too forward, and spring wheat not forward enough, for the operations of the insect, and the damage is avoided. At present, sow your winter wheat as *early* as you can, and sow your spring wheat as *late* as you can and give it time to ripen.

Farmers, and all who find either pleasure or profit in any thing made from wheat, would be greatly indebted to any entomologist who should make us better acquainted with the character and habits of this destructive insect.—*Vt. Chronicle*.

(From the New England Farmer.)

LEAVES FOR MANURE.

It now is, or soon will be a proper time to collect fallen leaves for littering cattle, hogs, &c. Our able correspondent, J. M. G. of Weston, Mass. in a communication published in our paper some years since, observed, "I have fixed my eyes in such a manner as to have a small loft over them for leaves, with openings at the sides to draw out the leaves with a rake, and supply the hogs occasionally with fresh litter. I have also inclosed part of a shed in the barn yard to store up a sufficient quantity of leaves to litter my cattle through the winter. The advantage is not confined to the mere addition of the leaves to the dunghill; it furnishes the means of preventing the waste of the urine of the cattle. When the floor is cleared in the morning, the leaves with which the cattle have been littered, the dung and the urine, should be well worked together with the shovel before they are thrown out; and being so compounded, the decomposition of the leaves will take place much sooner, and their addition to the dung become more valuable.

"It is customary to prefer green dung to any other for planting potatoes, and it answers very well for that crop; yet it is often too cloggy, and will remain

sometimes in a lump in the hills, whereby the potato is less benefited. The addition of the leaves, if well worked together as above described, makes that kind of manure much better adapted and truly excellent for raising that crop, more particularly so, if on meadow ground, where cattle dung is apt to increase the wetness of the soil, whilst the leaves, rendering it better divided and lighter, give to the potato hill a greater aptitude to be penetrated and fertilised by the warmth of the sun."

Leaves, used as manure are very valuable for the purposes of gardening and for fruit trees. Forsyth says, "collect annually as many loads of leaves as you conveniently can, which make into hot beds, for late melons and cucumbers, and for early potatoes, &c."

It has long been a complaint of agriculturists that potatoes of the best quality can hardly be raised, excepting on what is called new land, or land lately cleared from the woods, which covered it in a state of nature. Such land we know has been manured with leaves and probably for centuries. It is then a very likely supposition that leaves applied as manure to old land may supply the kind of food most congenial to the potato; and give to fields, which have been long under cultivation, the power of producing as fine potatoes as those lands which have lately been cleared from the wood with which they were covered whilst in their natural state.

HORTICULTURE.

SKETCH OF THE HISTORY OF THE DAHLIA.

(Concluded from page 270.)

England had received plants of the Dahlia, in 1789, since these individuals were lost, and in 1804, seeds were introduced by Lady Holland, from which and from some plants imported from France in 1814, the present English stock of Dahlias has originated, (*Vide London Encyc. of Gard.* p. 844.)

It is not known in what precise year the Dahlia reached the United States. I have been informed, that it flowered in this city as early as 1819, but it is extremely difficult, (not to say impossible,) to determine with certainty, the date of its introduction. Few persons attend to these points, and it is matter of regret, that the dates of introduction of useful or remarkable productions should not be preserved. Another cause, in the present instance, was the neglect which the Dahlia met with: a prejudice against it prevailed: it was supposed to be very difficult of cultivation, (though the reverse is the fact,) and consequently, it was so far neglected, that many persons very fond of flowers, and otherwise well informed, did not know what a Dahlia was, having never seen one until this season. It is only within the last few years that it has begun to receive the admiration it so well merits: the prospect is brightening, and we may hope that our horticulturists will soon vie with their European brethren, in the culture of this truly beautiful and splendid exotic.

I have already stated, that though we had but two species, there existed an immense number of varieties and sub-varieties of the Dahlia. No plant is more "playful" (technically speaking) than this; in other words, Dahlias raised from seeds show a greater tendency to produce flowers different from those of the mother plant, than almost any other plant that we are acquainted with; the tribe of "Geraniaceæ;" (Sweet) perhaps excepted. This difference takes place sometimes in the shape of the flower; larger or smaller; double, semi double, or, more frequently, single; the surface of the flower is sometimes flat; the petals straight, or rolled in cornets, or entirely tubular, *quilled*; or most fantastically curled and twisted, as was the case with a fine salmon-coloured seedling obtained this season by Mr. Samuel Feast. Sometimes the flower takes the form of a cockade, as in the large and beautiful division of the "Anemone-flowered sorts."

In one instance that we have seen, the flower was perfectly globular, very singular as well as beautiful: this specimen was obtained from the garden of a distinguished amateur of this city.

The colour is no less variable than the form of these beautiful productions. They are to be found of the purest white, as well as of the deepest purple black: running through every gradation of colouring and variety of shade, yellow, orange, red, carmine, scarlet, crimson, &c., blue only excepted. In order to give some idea of the extent of this variability, I shall quote a few remarks of Mr. Wallner, of Geneva, already mentioned. In sowing the seeds of Dahlias, he takes care to keep the produce of each particular flower separate, sowing each seed-vessel in a flower pot by itself, marking the colour of the flower which produced it, and afterwards noting the colours of the flowers obtained from it. In this way he has ascertained, that seed-vessels of *white flowers*, gave purple, violet, rose coloured, and but few white ones. Purple flowers, gave rose coloured purple, carmine, white and but few reds.

Crimson and scarlet, gave every possible shade; and from the seeds of one very fine scarlet flower, he obtained *thirty-nine* different ones, all double, and one of them a splendid white. Many plants gave particular coloured flowers, half of one colour, and half of another. One, the variety called *Rui des Pourpres*, sent up two stems: one bore flowers of a fine purple colour; the other stem divided into two branches, one of which gave flowers like those of the principal stem, and the other, white flowers tinted with rose. Another plant invariably produced two flowers at the same time, at the end of each stem, one of them, a bright jonquil yellow, the other a deep orange.

Again, the plants vary in height from two feet to ten, and upwards; some have been known to attain the height of fourteen feet; for instance the one mentioned in the New York Commercial, quoted in the Farmer of last week, p. 270.

The size of the flower is not more constant than the shape and colour. They may be found of all sizes from the diameter of an inch and a half, to that of five, six and seven inches and upwards. The French amateurs describe these "stars of the earth," in the same way, as astronomers describe the Heavenly bodies; they have them of the first magnitude, of the second and of the third magnitudes, quite a fanciful notion, and not a bad one either; some of them may make very good planets, those noble ones, which are beautiful in themselves and singly, and a "constellation" of fine Dahlias, is no despicable object. The following table will show the French method:

For Heights.

First altitude, those of eight feet high, and upwards.	
2 do.	between 6 & 8 feet.
3 do.	between 4 & 6 feet.
4 do.	between 2 & 4 feet.

For size of Flowers.

First magnitude—five inches or more, in diameter.	
2 do.	between 2½ & 5 inches.
3 do.	between 1½ & 2½ inches.

If it be agreeable, I can furnish a list of names of French varieties, with a short description appended to each.

So far have I attempted to give a slight sketch of the history of this delightful flower. If it has languished in neglect among us, for some time, its prospects for the future are more brilliant. It has begun to receive that admiration which it will always claim for itself as soon as known, for it needs only to be seen, in order to be admired. We hope, in the course of another season, to have a list of American Dahlias, to draw up; and there can be no doubt, that if our florists and amateurs, bestow even a small degree of attention on their culture, we will have a "Galaxy," that we need not be ashamed of.

D ***.

(For the American Farmer.)

ANEMONES.

Greatfield, Cayuga Co. N. Y.
10th mo. 22, 1832.

A florist of this neighborhood purchased some Anemones at *Thorburn's*, about a year ago, and made me a present of three roots, presuming that they were one or more of the numerous varieties of the *Anemone coronaria*. At the usual time of planting, these were forgotten; but finding them accidentally in the early part of summer, I set them in a shaded border consisting of pit-sand and vegetable earth from the woods, and thought little about them for several months, except to keep the ground free from weeds. One month ago they began to flower with a splendor that has attracted the attention of every person who has visited the garden. The prevailing color is a light red inclining to scarlet; the exterior sepals green, striped with red and white, but the bases of the interior sepals are white with a stripe of this color often passing upward into the red. The flowers are double, sometimes prolific, and often contracted on one side.

I had observed some time ago that the leaves greatly resembled those of *Anemone hortensis*; but in the culture of the latter plant I have not been successful in the open ground; and it was therefore with some surprise that I observed the flourishing condition of our present plants. On examining them by *Loudon's Encyclopedia*, we found them to agree with *Anemone prœnina*, a native of France, and which is distinguished from *Anemone hortensis*, chiefly by its "very acute sepals" and taller scape. Ours are from twelve to fourteen inches in height, the flowers two inches in diameter.

Though so late in the season, these plants shew no symptoms of decline; new scapes are successively protruding from the crowns; and there is a fair prospect of their continuing in this state till the ground shall be frozen.

Will the Editor be so kind as to inform me if he has cultivated this plant? and also, if he has been successful in cultivating *Anemone hortensis*? D. T.

[The Editor of the American Farmer has never been able to succeed in cultivating the Anemone of any species—he has never seen the one described by "D. T." and would be glad to obtain a root of it.]

(From the Baltimore American.)

HORTICULTURAL SOCIETY.

Gentlemen:—The favorable reception my former communication met, has emboldened me to come forward once more, and offer to your consideration, and that of the public, a few more remarks on the formation of a Horticultural Society.

The chief obstacles to this, at present, seem to be erroneous ideas as to the nature of such an establishment, and the difficulties to be surmounted or expense to be incurred in its commencement and subsequent support. By far the greater number of those with whom I have had an opportunity of conversing on the subject, entertain very variable and opposite notions of the object, nature and ends of a Horticultural Society. Perhaps a few abridged passages from the transactions of the Horticultural Society of Paris may throw some light on these points. The President of that body, M. Boissierand, in a speech delivered at its second annual meeting, remarks—"That there is something peculiarly excellent in associations of this kind, where men meet together for the public good, each bringing to the common stock, for the benefit of all, the fruits of his own investigations, labor and experience. These labors have a much higher object than the mere embellishment of the dwelling or the refinements of luxury; they tend to that general utility which is to be expected from the principal branch of agriculture;—for the garden is, as it were, the pri-

vate laboratory of agricultural science; there are performed, on a small scale, experiments on the nature and mode of culture of the various objects of the farmer's attention, and from such experiments is derived a stock of precious information without which the practical agriculturist would often be sorely at a loss. Another point which is also particularly within the province of horticulture, is the acclimation of foreign plants, disposing them, by due degrees, to support the rigors of a climate under the influence of which they would have perished inevitably had not their constitution been hardened to endurance by the enlightened care and skilful attention of horticulture."

A superficial observer, upon looking into a "Report of Proceedings" of the same society, might suppose them to be the transactions of an Agricultural, rather than of a Horticultural Society. The members, at the very outset, directed their attention to the culture of the "dry rice," and afterwards, successively, to that of the mulberry (for silk,) of the olive, of the vine, &c. Experiments were suggested and premiums offered for ameliorations, and some of the highest titles of the French nobility were to be found in the list of candidates for these honors; amongst others was the Duke of Orleans, now his majesty, Louis Philippe 1st.

What has been said will suffice to give some insight into the nature of a Horticultural Society.—Surely a science like this is not a vain one; a society, the end of which is to produce these effects, cannot be futile. Such pursuits are not unworthy the attention of those even in the most exalted walks of life; and though it be not the duty (for it is not in the power) of every one to put his own hand to the plough, yet it is the duty of all to aid as far as possible in furtherance of an association which has for its object to simplify and lessen the labor of the farmer as well as the gardener, to direct their efforts into the proper channel and remove obstacles from their path. And let it be remembered that "he who succeeds in raising two grains of corn where only one grew before, or he who can cause two blades of grass to grow on a spot which before produced only one, deserves well of his country"—for he does it a real service.

I must reserve the conclusion of this article for another communication. I shall then endeavor to show that the establishment of a Horticultural Society will not be attended with so many difficulties or so much expense as seems to be generally imagined.

D***.

(From the New England Farmer.)

CULTURE OF THE STRAWBERRY.

MR. ESSENDEN: Frankfort, Pa. Oct. 1832.
Sir,—Perhaps some of your readers may derive benefit from my experience in the cultivation of that most delicious of fruits, STRAWBERRIES; the usual method of cultivating this plant, whether the aim be quantity or quality, I think should be abandoned, for I am fully satisfied from my own experience, that the practice of planting strawberries in beds of from four to five feet in width, and permitting the original plants to produce others from their runners or offsets, and thus letting the bed become completely overrun with vines, will be found, (at least my experience has taught me so) less productive than keeping them in separate bunches or hills as originally planted. I have two beds of this fruit in my garden; one is not more than 20 by 20 feet, and the other is a few feet larger. The first contains 370 plants—two placed in each hill; the hills at equal distances of about fifteen inches—planted in the spring of 1831, from runners of the previous summer, and in 1832, yielded me, I say it with truth and soberness, *upwards of one pint from each hill!* These are the globe hantais. The second bed was set out last fall, and although the quantity produced was not so great, yet they were of superior flavor and very large; these are the scarlet berry. My method of planting and cultivation is this:

The beds were first dug in with old stable manure, the plants placed two in each hill as before stated, about 15 inches distant. As fast as the runners or offsets appear they are taken off close to the old plant—the beds kept clean of weeds during the summer, and in the month of September all the old plants are cut off with a pair of shears close to the ground, and the bed is then dug near a spade deep, taking care not to injure the roots. I protect them during winter by placing hog manure all round the plants, say about three inches deep, and then hoe dirt over the manure to prevent the action of sun and rain.—In the spring the manure is removed, and the leaves, the growth of September and October of the previous fall, are all taken off close to the ground; for if left, (when the plants are kept in hills) they are apt to rot the summer's growth of stocks. In the early part of April they begin to shoot forth anew—the bed is then dog as in the fall, and a handful of raw (wood) ashes put round the roots of each plant. The plants thus treated grew by the month of July during the past summer, to the circumference of half a bushel; and the berries on the plants of each hill fifteen inches apart, nearly met each other, so that it required great care in walking between them. I plucked two quarts from this bed which averaged three inches in circumference. The second bed was managed as the first; but the scarlet are less productive in their nature than the hantais, and being the first summer of their bearing, a large yield could not reasonably be anticipated; strawberries raised in this way are at least double the size of those propagated in beds where the plants are suffered to send off their runners, and they (the former) all attain a good size, which is not the case with the latter; hence the quantity is as much or more, on the same space of ground, and the flavor is far superior, inasmuch as the sun has full action on all the berries, and the plant is ten fold more luxuriant and strong in consequence of the direct action of the summer sun and rain on its roots. G. K. B.

MISCELLANEOUS.

EXTRACT FROM THE SIXTH ANNUAL REPORT OF THE PRESIDENT AND DIRECTORS OF THE BALTIMORE AND OHIO RAIL ROAD COMPANY.

The period having arrived, when the charter of this Company again requires that an exposition of its affairs, should be presented to the Stockholders, the President and Directors now proceed to make their Sixth Annual Report, of the condition and prospects of the work entrusted to them.

The present points of termination of the Baltimore and Ohio Rail Road, are, the City Block, in Baltimore, and the Point of Rocks on the Potomac river, a distance of sixty-nine miles; to which must be added the lateral road to the city of Frederick, three and a half miles more, making the whole extent of the Rail Road seventy-two and a half miles.

At the time of presenting the last Annual Report, there had been completed, of the above distance, a single track on twenty-five miles to the forks of Patapsco; the necessity of using the first laid track of Railway, on the second division, however, to facilitate the construction of the second track, confined the regular transportation of the company to the first division, between Baltimore and Ellicott's Mills—other parts of the Railway had also been laid down, but were not then in a condition to be used.

The Board had always held out the idea, to the Stockholders, that the communication, by the Railway, would be opened with the city of Frederick, during the year 1831; and although the practicability of this was doubted by many, yet the great exertions that were made by the officers, agents and contractors, in the service of the company, effected the object, within the time specified, and on the first day of December last, the Board passed, with a train of

cars, over the whole extent of the Road to Frederick, and formally opened it, for the transportation of merchandise, and the conveyance of passengers, between the two chief cities of the state.

The Board cannot forbear on this occasion, to notice the kind and hospitable reception given to them by the people of Frederick, and the sincere gratification which seemed to pervade the entire population of that enterprising city, at the successful result of the Company's labours in the completion, thus far, of the great avenue to the West.

The main stem of the Railway from the Monocacy to the Point of Rocks, was not completed, so as to permit the regular use of it, until the first of April last, when a train of cars passed over it, bearing to Baltimore, produce which had descended the Potomac. Since that time several warehouses have been erected by individuals at the Point of Rocks; taverns, dwellings and other improvements are rapidly rising there, and the facilities of transferring produce from the river to the road, being for the present sufficient, the boatmen and farmers of the country to the West upon the Potomac, are resorting more and more, daily to the Point of Rocks, as the most convenient spot, from which to reach the Baltimore market. When to this, is added, the travel for pleasure from Frederick,—the proceeds of that part of the main stem between Monocacy and the Point of Rocks, are found to constitute no unimportant item in the general receipts of the Company.

After the completion, throughout, of the first track of the Railway, to the city of Frederick, the whole disposable force of the Company was employed upon the second track; and the Board have now the satisfaction of announcing to the Stockholders, that the entire line of Road, from the Depot on Pratt-street, to the Monocacy, is finished with two sets of rails. The work has been done in a manner, highly satisfactory to the Board, and creditable to those immediately entrusted with its execution. The same character distinguishes it throughout. Every thing is equally well done, and the same care has been bestowed upon those parts, which pass through a wild and thinly settled county, that is evident in the more immediate neighborhood of this city. Experience has, of course, enabled this to be effected, at much less cost, than was incurred in the first instance; but, in no case, has there been a sacrifice of that durability, and excellence of construction, upon which the continuing utility of the work is to depend. Since the Railway has been put down upon the road, every attention has been bestowed upon maintaining the whole, in constant good condition, so as to prevent the necessity, at any one time, of large expenditures for delayed repairs, or any intermission in the use of the road, while repairs may be going on. In this way the Board feel confident, that the annual wear and tear of the road may be reduced to an exceedingly small amount; and by being equally divided among successive years, be scarcely felt in estimating the net revenue of the work.

The lateral Railway to Frederick consists now of a single track, only with a turnout and siding, at about half way between the main branch and the Depot. This is found, as yet, to be sufficient to accommodate the ordinary transportation. The graduation, however, has been prepared for two tracks, whenever they shall be required.

Upon the main stem, from the Monocacy to the Point of Rocks, there is also but one track of Rails with sidings and turnouts. The graduation, however, is completed for two tracks, and materials necessary to construct the second, have been prepared, and a portion of them are at convenient depots along the line; so that at any time, when the trade and travel require it, this track can be completed within a month from the date of commencing it. In the mean while the string pieces and sleepers are seasoning and daily becoming more fit for use.

There is now completed a distance of seventy-two

and a half miles of graduated Rail-road, upon which have been laid, including sidelings, rails equal to one hundred and thirty and a half miles of single track—upon the whole of which an active trade is daily carried on. In this distance, every mode of construction has been tried. The granite and iron rail—the wood and iron on stone blocks—the wood and iron on wooden sleepers, supported by broken stone—the same supported by longitudinal ground sills, in place of broken stone—the log rail formed of trunks of trees, worked to a surface on one side to receive the iron and supported by wooden sleepers—and the wrought iron rail of the English mode—have all been laid down, and at this time form different portions of the work. In the trade which has passed over this railway, every kind of vehicle adapted to Rail-road transportation, has been used, and every species of motive power employed.—Heavily loaded cars of granite have been constantly drawn from near to, and beyond Elliotts' Mills to Baltimore—merchandise has been conveyed at from four to six miles the hour, and passengers at from ten to twelve and thirteen, by horses; and steam has been tried at every velocity, from ten to twenty miles; and regularly used for a distance of forty miles, to the foot of the inclined planes, at an average speed of from twelve to fifteen in the conveyance of passengers—so that not only have the modes of construction been tested, but the most satisfactory data for ascertaining the wear and tear of the road are in possession of the company.

It is a cause too of no little gratification to the Board, to be able to state, that the expenditures, during the past year, for the construction of the railway have fallen considerably within the estimates: although these, when made, had been considered as low, with regard to the work to be executed—the character of the country, the difficulty of transportation, the want of labour, and other circumstances, that did not exist, or were not felt, when the limit of the road was still within a short distance from Baltimore. It will be seen from the reports of the superintendents of graduation and construction, that the actual cost is \$19,912.96 less than the estimates.

Under all these circumstances, speculation is no longer necessary. Facts now stand in the place of opinions—results in place of calculations. *And upon a full and careful examination, the Board feel no hesitation in assuring the Stockholders that the completion of the work to its termination on the Ohio, upon the plan first contemplated with a double track of rails, is perfectly practicable within the original estimate of twenty thousand dollars per mile, excluding, in the average, the greater outlay upon the first division of the road, and this too without the sacrifice to economy of any one requisite of durability and excellence.*

It rarely happens in the execution of great public works, which are to depend for success, upon circumstances, whose future existence is but a matter of present calculation, that the result fulfils, in every respect, the anticipation of the projectors and undertakers; and most frequently it falls to the lot of those entrusted with the management of them, to apologise for disappointments, by tracing their causes to unforeseen occurrences, beyond the power of prudence to prevent. During the progress of the Baltimore and Ohio Rail-road, it has often been said, that it would share this fate with most other great works, undertaken by individual enterprise; and there certainly have been periods in the existence of the company, when surrounded by numerous and complicated difficulties, the fulfilment of such predictions might apparently seem not to be improbable. In fact, until the first grand division of the road between Baltimore and the Potomac, was completed, no fair test had been offered, fully to ascertain its merits, or by which to compare it with the original anticipations of its importance and value. This distance is now completed; and tried by the test thus furnished, the Baltimore and Ohio Rail-road presents one of the very few un-

der takings of public works by private means, in which no reasonable hope has been disappointed; but in which every expectation has been realized. The adaptation of the Rail-road system to general traffic,—that point so long disputed, has been fully and forever set at rest. Every species of agricultural productions, lime, timber, lumber, fire-wood, even paving stone, have been brought to Baltimore, with profit to those using the road as a means of transportation for articles so bulky and so cheap: and in return, and at an enhanced toll, but with equally profitable results, plaster of paris, coal, boards, bricks, and scrap iron have been sent into the interior.*

When articles so varied, and some of them of so small value, can be carried profitably to their owners, and to the company, no doubt can exist as to the profits arising to both, on merchandise and passengers. Neither has the sparse population of the country through which the road for long distances passes,—nor its rugged character,—had its anticipated effect, of rendering it comparatively valueless. On the contrary, the existence of the road has brought into use articles, in this very country, which were before valueless to their possessors—and forests and quarries now furnish resources to the land owner, which, but for the Rail-road, would have fallen and rotted where they stood, or remained forever, unknown or undisturbed in the bowels of the earth. In this way the profits of the road have been increased from sources that were unthought of, when it was projected, and all this in the short period which has elapsed, since the commencement of the present year. It was to have been expected from the experience of other places, that the facilities furnished for the transportation of passengers, would increase the travel, between the two cities, connected by the Rail-road, and the result has fully justified the anticipation—so that, in fine, looking back to the views and plans of those, who undertook the road, it is difficult to find one, that has not been substantially gratified and carried into effect.

In assuming this confident tone in their official communication to their constituents, the Stockholders of the Baltimore and Ohio Rail-road Company, the Board do not do it lightly, but act under a full sense of their responsibility for the representations which they make. But, as before remarked, they have already in their possession ample data in undeniable facts. The road which has been constructed by them, is the longest, in the world. Circumstances made it, from the commencement, necessarily a series of experiments. Every mode of construction has been tried, every species of moving power has been employed; and every character of produce, merchandise and passengers have been transported upon it. The Board, therefore think, that it must be admitted on all sides, that there has been ample opportunity within their reach of becoming acquainted with the value and importance of the road; and it is the knowledge which they have thus obtained that justifies the confidence of their present statements.

Among the events of the last year, connected with the progress of the work, to which the Board adverts with the greatest pleasure, is the result of the experiments in the use of the locomotive engine. It will, no doubt, be recollected that the unavoidable curves and ascents of the road, induced many to believe that the use of steam, to any extent, was impracticable; and that horse power must be applied at all events, upon much the greater portion of the road. A small engine, however, constructed by Peter Cooper, Esq. of New York, made several trips up the ascents and through the curves, between Baltimore and Elliotts' Mills; and an engine for the conveyance of passengers, built by Davis and Gartner, of York, Pennsylvania, has recently been employed, with but little in-

termission, for upwards of a month, doing the entire transportation of passengers between Baltimore and the foot of the inclined planes, a distance of forty miles; travelling, therefore, with a train of cars, a distance of eighty miles every day. Its construction is novel, compact, and very simple, not liable to derangement; and, as experience has in some degree shown, requiring few repairs, working without jar, and, apparently, with nearly as little wear and tear as if stationary; presenting its whole machinery to the hand of the Engineer, without requiring him to move from his proper station on the car, either to see it, or govern its operations, and fully proving the adaptation of this road to the use of steam power. Satisfactory as it is, however, and independent as it makes the company of foreign aid, it is considered but as the commencement of a series of experiments, which will, even more fully than has yet been done, prove the adaptation of steam and Rail-roads to every part of our country, and for all the purposes of trade and travel.

Besides the increased rapidity of motion which will be the consequence of the introduction of steam upon the railway, the Board are already able to announce, that it will make a most important reduction in the cost of transportation to the company. By comparing the expense *per diem* of the locomotive engine, including the wages of hands, the cost of fuel, the wear and tear, and the interest on the value of the engine, supposing it to become useless in a given time, with the expenses attending the transportation by horse power, to produce equal effects; the saving to the company, in the conveyance of passengers, has been found to be about fifty per cent. in favor of steam. This decrease in the cost of transportation, while the traffic and travel on the road continue rapidly to increase, justifies the confidence of the Board in their anticipations of the profits and consequent value of the stock of the company.

The Board, while on this subject, take occasion to remark, with much satisfaction, that by the introduction and use of steam on the road, the opinion heretofore entertained and expressed of the general excellence of its location and graduation is confirmed.

In concluding their Sixth Annual Report, the Board repeat their assurance to the stockholders of their entire confidence in the final success of the work, in which they are engaged; and it is a source of high gratification to them now, after the first grand division of the railway has been completed and put into active operation, to be able also to assure the stockholders, that no errors vitally affecting the great interests of the undertaking, whether as regards the location or construction of the road, have been discovered. Embarking, as this company did, in a new and extensive undertaking, involving numerous and complicated details, of which little was then practically known in our country, it could not but be expected, but that some mistakes would be made. It is gratifying, however, to know that as regards this company, these mistakes have been few and unimportant, and the Board of Directors look forward with confidence to an increase in the value and profits of the capital invested, proportionate to the increasing wealth and prosperity of the two vast sections of the country, which will, by the road, when completed, be indissolubly united together.

On behalf of the Board,

P. E. THOMAS, President.

October 1, 1832.

DISEASE IN CATTLE.

The New York Journal of Commerce says, that a malignant disease exists among the cattle, in the neighbourhood of Kipp's Bay. Nine cows have died from one farm. One of these had been examined, and a large quantity of blood found upon the heart, the stagnation of which appeared to have caused death.

* We have seen oyster shells also carried on the Rail-road, to the interior, for the purpose of making lime.—*Editor Amer. Far.*

Prices Current in New York, November 3.
 Beeswax, yellow 16 a 20. Cotton, New Orleans .101
 a .131; Upland .101 a .131; Alabama, .101 a 13—*Cotton*
Bagging, Hemp, yd 13 a 21; Flax 13 a 14; *Flax*, Amer-
 ican, 7 a .8; Flaxseed, 7 bush, clean—rough, 11½ a 11½;
Flour, N. York, bbl. 6.37 a 6.44; —Canal, 6.75 a 6.87;
 bbl. Hwd-st. 6.75 a —; Rhd. city mills, 6.87 a —;
 country, 6.37 a —; Alexandria, 6.62 a 6.75; Freder-
 icksburg a —; Peters, new, 6.37 a 6.50; —Rye Flour,
 4.62 a —; Indian Meal, per bbl. 3.75 a —; per hhd.,
 17.00 a —; Grain, Wheat, North, 1.25 a —; Vir;
 1.26 a 1.33; Rye, North, 82 a 85; Corn, Yel. Nor. 82 a
 —; Barley, .85 a .86; Oats, Sth. and North, .42 a .50;
 Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; Pro-
 visions, Beef, mess 8.74 a 8.80; prime 5.25 a 5.37;
 cargo — a —; Lard, 9 a —; Pork, mess, bbl.
 14.00 a 14.50; prime 11.50 a 12.00.

CHOICE DEVON STOCK.

I have for sale, for a celebrated breeder, the follow-
 ing choice animals, at prices annexed. They are all
 pure and full bred, and have not before been offered for
 sale. Such an opportunity seldom occurs for procur-
 ing first rate stock.

Two BULLS and six HEIFERS, of various ages less
 than one year at \$50 to 75 each.

Two HEIFERS about two years old, \$75 and 80.

Several other COWS, in calf by a full bred bull, \$100
 to 125 each.

One FULL BRED BULL, three years old, a fine
 animal, \$150. Address I. I. HITCHCOCK,
 At the American Farmer Office and Seed Store.

MORUS MULTICAULIS, OR NEW CHINESE MULBERRY.

Superior to all others for Silkworms in these respects:
 1st. The stalk is low, and therefore the leaves are
 more easily gathered than from large trees.

2d. The leaves are large—from ten to fourteen in-
 ches long, and from eight to twelve broad, hence much
 of the usual labor of gathering is saved.

3d. A method of cultivation will be imparted to the
 purchaser of twenty trees at this establishment, by
 which he will in three years have a full supply of leaves
 for any desirable silk establishment.

A few hundred of these trees are for sale at the
 American Farmer Office and Seed Store, No. 16 South
 Calvert street, by I. I. HITCHCOCK.

PLANTATION FOR SALE.

The Subscriber offers for sale the plantation whereon
 he lately resided in Sassafras Neck, Cecil county, Mary-
 land, one mile below Rose Hill, the seat of General
 Forman, and about fifteen miles below the mouth of
 the Chesapeake and Delaware Canal. It contains eight
 hundred and eight acres, of which about five hundred
 and fifty acres are arable, and for the most part in a
 high state of cultivation. The wood and timber abundant
 and fine. The quality of the soil is first rate, and
 little or none of the tract is waste. Its form is an ob-
 long square, and is bounded on the South by Sassafras
 river, and on the north by Ponds creek, and may be said
 to be enclosed on two sides by water. On the tract is
 Ordinary Point, one of the most celebrated points for
 duck shooting in Maryland, especially for canvas
 backs. The situation is high, and commands a fine view
 of Turkey Point and the head waters of the Chesapeake
 bay, and is about mid-way between the Philadelphia,
 Brandywine and Baltimore markets, and has conven-
 ient landings for shipping the crops to either market.
 For the growth of Indian corn, wheat, timothy and clover,
 this farm is not surpassed on the Eastern Shore of
 Maryland, and as such offers the highest inducements
 to the farmer, the grazier, and the sportsman.

The improvements are a comfortable dwelling house,
 and other suitable buildings, a young apple and peach
 orchard, in full bearing, and a choice collection of
 other fruits. It will be sold low and the terms of pay-
 ment made easy. To the capitalist it is an object for
 an investment, as the rents received will average per an-
 num seven per cent. on the sum that would command it.

For further particulars apply to Levin Gale, Esq.
 Elkton; James Rogers, Esq. New Castle, or to Wil-
 liam Cooke, Esq. Baltimore. Captain Craddock, re-
 siding on the place, will show it to persons desiring to
 see it.

O. HORSEY,
 Sept. 7. St. Petersburg, Frederick Co. Maryland.

FINE FULL BLOOD AND MIXED DURHAM SHORTHORN STOCK, FOR SALE.

I can supply to those who may want them several
 full bred improved Durham Shorthorn Cows and Heif-
 ers at from \$150 to \$300 each according to quality,
 age, &c. They are generally in calf by the celebrated
 bull Bolivar.

Also, a full bred bull, of the same breed, near ten
 months old—a fine animal. Price \$200.

Also, a bull calf, five months old, full bred also.
 Price \$175.

Also several heifers of last spring by a full bred im-
 proved Durham Shorthorn Bull out of cows of the Hol-
 stein and Bakewell cross. Price \$50 to \$75 each.

Also, several bull calves, of same age and blood, at
 from \$25 to 50 each. Address I. I. HITCHCOCK,
 Sept. 21. Office Am. Farmer.

FRUIT AND ORNAMENTAL TREES.

The season for transplanting having now arrived the
 subscriber is prepared to execute orders for Trees of all
 kinds that grow in the United States. In this, as in all
 other departments of his business, he is determined to
 give entire satisfaction in every respect to all reasona-
 ble customers. Address I. I. HITCHCOCK,
 American Farmer office and Seed Store.

AGRICULTURAL IMPLEMENTS, &c.

SINCLAIR & MOORE, Pratt street wharf, have on
 hand a general assortment of articles in the agricultural
 line. It is their determination in order to devote
 more of their time to the improvement and careful
 manufacture of implements, and the production of the
 best articles in their line, to confine their sales to
 cash, or for acceptances in town; with a few excep-
 tions where arrangements equally convenient are made
 for selling by wholesale.

GARDEN SEEDS.—A general assortment by whole-
 sale and retail, warranted good. Their supply of
 seeds of the present year's growth is now coming in,
 and in a few days most of the articles in the seed line
 will be ready for sale.

FRUIT TREES, &c.—The season for transplanting
 fruit trees being nearly at hand, we invite those who
 intend to plant to send in their orders early, which
 will give the best opportunity of filling them to satis-
 faction. Trees will be carefully packed so as to carry
 safely, for which reasonable charges will be made.

PATENT CYLINDRICAL STRAW CUTTER.

The subscriber would inform the public, that in the
 year of 1816, he commenced making improvements in
 Straw Cutting Machines, and paid his undivided at-
 tention to that object for five years; that in 1821
 he obtained a patent from the United States for his
 IMPROVED CYLINDRICAL STRAW CUTTER, and
 has been manufacturing them ever since; during which
 time he has added some valuable improvements to it, and
 turned out nearly five hundred machines which, have
 given general, and he believes universal satisfaction to
 his customers, and that he still keeps a full supply of
 them on hand of various sizes and prices, viz.

\$25.00, 27.00, \$40, \$45, \$50, and \$55.

Extra knives, 3.50, 3.50, 5, 5, 6, and 10.
 The two first named are too small for farming pur-
 poses, but suitable for a person that keeps but two or
 three horses or cows. These machines are adapted to
 the cutting of all kinds of forage, straight or tangled,
 coarse or fine, corn stalks, &c. and are simple and du-
 rable in their construction.

Determined as he is to be unremitting in his exer-
 tions, he hopes to sustain the high reputation, he has
 gained for these machines, and to afford them as low as
 any one can. He also keeps constantly on hand, a general
 assortment of IMPROVED PLOUGHS, and every
 other implement in the Agricultural line, which are
 manufactured with care, and of good materials, and
 will be afforded on pleasing terms.

J. S. EASTMAN.

Nov. 9. Pratt, between Hancock and Charles streets.

WANTED,

At the American Farmer Office and Seed Store, all
 kinds of GRASS SEED, CLOVER SEED, pure SEED
 GRAIN, and choice Domestic Animals. Apply to
 I. I. HITCHCOCK.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—The supplies of flour continue
 quite limited and the prices have advanced still further.
 The wagon price of Howard street flour yesterday was
 \$5.12½. The same remarks apply to grain of all kinds;
 corn particularly is not only unusually high, but out of
 all proportion to that of wheat. Wood is high on ac-
 count of its scarcity. Wood remains as at our last.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do-
 ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a
 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 5.00;
 wrappery, suitable for segars, 6.00 a 15.00; yellow and
 red, 3.00 a 15.00; yellow, 16 00 a 20.00.—Fine yellow,
 18.00 a 26.00.—Virginia, 4.00 a —, Rappahannock,
 3.00 a 4.00.—Kentucky, 3.50 a 8.60. The inspec-
 tions of the week comprise 319 hhd. Md.; 16 hhd.
 Ohio; and 1 hhd. Ken.—total 386 hhd.

Wool—best white wheat family .67 5 a 7.25; super
 Howard-street, 6.25 a 6.37½; city mills, 5.87½ a 6.00;
 city mills extra 6.12½ a 6.25;—CORN MEAL bbl. 3.50;
 GRAIN, best red wheat, 1.12½ a 1.17; white do 1.20 a 1.25;
 —CORN, white, 83 a 84, yellow 83 a 84; RYE, 65 a 68
 —OATS, 35 a 36.—BEANS, 75 a 80.—PEAS, 65 a 70.

CLOVER-SEED — a — — — Timothy, — a — — OR-
 CHARD GRASS 2.00 a 2.25.—Tall Meadow Oat Grass
 2.00 a 2.50.—Herd's, 75 a 87½.—Lucerne — a 87½ lb.—
 BARLEY, FLAXSEED 1.50 a 1.62.—COTTON, Va. 9 a 10½—
 9 a 13—Alab. 8 a 11½—Tenn. 8 a 11; N. Car. 8 a 11—
 Upland 8 a 12.—WHISKY, hhd. 15 p, 31½ a —; in bbls.
 32 a 33.—Wool, Washed, Prime or Saxony Fleece 45
 a 50; American Full Blood, 38 a 42; three quarters do
 33 a 38; half do. 30 a 33; quarter do. 28 a 30; common 25
 a 28. Unwashed, Prime or Saxony Fleece, 25 a 30;
 American Full Blood, 22 a 25; three quarters do. 20
 a 22; half do. 18 a 20; quarter do 16 a 18; common, 16 a 18
 Hemp, Russia, ton, \$210 a 225; Country, dew-rotted,—
 a 7e lb. water-rotted, 7a 8c.—Feathers, 36 a 37½; Plas-
 ter Paris, per ton, — a 4.37½, ground, 1.50 a — bbl.
 Iron, gray pig for foundries per ton 35.00 a —; high
 pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton,
 75.00 a 85.00.—Prime Beef on the hoof, 5.00 a 5.50—
 Oak wood, 4.00 a 4.50; Hickory, 4.50 a 5.00; Pine, 2.25.

CONTENTS OF THIS NUMBER.

Editorial; Male and Female Plants, Maclura; Cheat,
 Darnel, and Thistles; Dahlias—Sports of Nature—
 Freaks of Nature—Wool—New York Grain Market—
 Foreign Markets—Communication from E. R. on Dar-
 nel and Cheat—Official Report of the Brighton Cat-
 tle Show; Fat Cattle, Bulls and Bull Calves; Domestic
 Manufactures; Sheep and Swine; Working Oxen; But-
 ter and Cheese—The Character of a Complete Farmer
 —Cheat again—Seed Wheat, important discovery—
 Leaves for Manure—Sketch of the History of the Dah-
 lia, concluded—Anemonies—On the Establishment of
 a Horticultural Society, continued—Culture of the
 Strawberry—Extract from the Sixth Annual Report of
 the President and Directors of the Baltimore and Ohio
 Rail Road Company—Disease in Cattle—Prices Cur-
 rent of Country Produce in the New York and Balti-
 more Markets—Advertisements.

The American Farmer,

Edited by GIDEON B. SMITH, is issued every Friday.
 TERMS.

1. Price five dollars per annum: due at the middle of each
 year of subscription, provided that no balance of a former
 year remain unpaid.

2. The manner of payment which is preferable to any other
 for distant subscribers, is REMITTANCE BY MAIL OF CURRENT
 BANK NOTES; and to obviate all objection to this mode, the
 publisher assumes the risk.

3. Subscriptions are always charged BY THE YEAR, and
 never for a shorter term. When once sent to a subscriber,
 the paper will not be discontinued (except at the discretion
 of the publisher) without a special order, on receipt of which,
 a discontinuance will be entered, to take effect AT THE END
 of the current year of subscription.

4. PRICE OF ADVERTISING.—One dollar per square, and in the
 same proportion for more than a square, or more than one
 insertion.

DIRECTION OF LETTERS.—Address all BUSINESS let-
 ters concerning the Farmer, the store, or the agency, to the
 proprietor, J. I. Irvine Hitchcock, Baltimore, Md.

Printed by G. D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, NOVEMBER 16, 1832.

HERBEMONT'S AMERICAN WINE.—We some time since mentioned the fact that the excellent wine made by Mr. Herbmont of South Carolina, which he calls "Palmyra," had been found particularly adapted to the use of invalids, and preferable to all other wines for such purposes. We have now before us a letter from one of our most respectable physicians, to George Fitzhugh, Esq. (the agent of Mr. Herbmont in this city) from which we extract the following remarks:

"The Herbmont wine which you presented last spring to my patient, Miss——, was highly useful to her. It was particularly well timed. The patient was then so weak as to require wines and tonic medicines, and yet her stomach was so irritable and so productive of acid secretions, that every trial of other means had failed. Indeed, until the American wine was used, every thing of the kind seemed to be rather injurious than profitable. This acted like a charm; proving exceedingly palatable and nourishing, and at the same time serving as an excellent tonic medicine, free from acidity. It was so salutary that Miss—— frequently expressed her gratitude to you—adding that she 'had been wishing it was grape season, as you seldom forgot your friends in sickness, but she now found that your pure grape juice suited her case even better than the fruit!'"

The original letter may be seen at the office of the Farmer.

This testimony in favor of the quality of the wine made by Mr. Herbmont is important, because it proves that not only *good wine* may be made in the United States, but that that wine is better than the imported article for the purpose for which a very considerable portion of wine is used. It is also apparent, that the qualities that render it most useful for medical purposes, are the very ones that constitute the elements of good wine for all purposes. These qualities consist of, first, purity—perfect freedom from all deleterious admixtures; second, soundness; third, good flavor; and fourth, strength, without the addition of alcohol. It will scarcely be denied that wine best adapted to the use of invalids is also best for common use; or that such as is injurious to the weak patient who requires stimulants and tonics, must also be more or less so to the robust.

We are glad to perceive that a fair experiment of making wine is in rapid progress in various parts of the union. The society for the cultivation of the vine in this city have commenced operations, and planted a thousand vines of the Herbmont grape, and will ere long give a good account of it, we doubt not. Various spirited individuals in our vicinity have also made very extensive preparations for vineyards with a view to making wine; some of whom have planted many thousand vines. They are determined to give the subject a thorough trial, and we have no doubt they will succeed. Indeed, from what we have observed, and our means of information are very extensive, we have come to the conclusion that in a very few years we shall make wine for exportation. Our failure heretofore has been caused by our resorting to foreign vines, and following foreign methods too much in the spirit of routine, without making due allowance for the great difference of climate. We have native grapes equal in all respects, for the purposes of wine, to any foreign grape—such as the Herbmont, the Cunningham, &c. and we are now turning our attention to them, and a favorable result may be anticipated with entire confidence.

We ought to have mentioned that it has been intimated to us that a small quantity of Mr. Herbmont's wine will be sent to Baltimore for sale in a short time. Mr. H. has a ready market for all his wine at home, but we believe intends to send some to this market for the purpose of making its quality more

generally known, and of encouraging others to commence wine making.

GEORGIA COTTON CROP.

Mr. Smith: *Morgan Co. Geo. Oct. 28, 1832.*
This is one (Morgan county I mean) of the largest cotton making counties in the state of Georgia, our crops here, as well as in the adjoining counties, are miserable. I do not know a planter who will make more than a half crop of cotton, and the corn crop is not much better. I will not myself make a quarter of my usual crop of cotton. Many planters will be under a half crop, and very few over. The drought and rust were too hard for us. In Clarke county I have one hundred and sixty acres in cotton. It did not want attendance, and we expect to make only sixteen bales.

ROBT. R. HARDEN.

ALABAMA COTTON CROP.—The Mobile Register of the 10th ult. gives it as the result of many inquiries and a great variety of opinions on the subject, that the cotton crop of South Alabama, for the present year, will exceed that of the last, by at least eight or ten thousand bales. The Register adds that, should the season prove as favorable as usual, to the collection of the crop, we may calculate on at least 135,000 bales,—and should the cold weather keep off as it did in the autumn of 1830, 140,000 bales would not probably be an over estimate of the crop of South Alabama.

THE FIRST SNOW!—On Thursday last, we were visited by a heavy fall of snow, the first of this season. The temperature was mild, and a heavy rain had previously fallen; consequently, the flakes dissolved as fast as they fell. Had the air been a few degrees cooler, and the earth dry, we might have had tolerable sleighing.* The mountains around us have been clothed in their winter garb for two or three days.

[Lynchburg Virginian.]

[* We had snow in the vicinity of Baltimore on the same day—which, had there been enough of it, and had it remained long enough, would, doubtless, have afforded "tolerable sleighing."]

THE FLY.—Great complaint is made of the ravages of the fly, in the early sown wheat of this fall; and, what we have never heard of before, many intelligent farmers say that they find them in great numbers destroying the early sown rye.

[Lynchburg Virginian.]

(From the New York Commercial Advertiser.)

DAHLIAS.

*Linnaean Botanical Garden, }
Flushing, Oct. 23, 1832.*

MESSRS. EDITORS:
Gentlemen,—We transmit you this day a bouquet containing more than fifty varieties of Dahlias, and when you next visit us, will present you with above three hundred kinds. This magnificent plant bids fair to rival in splendor and variety the far-famed tulip and the rose. Very many of the new varieties are inconceivably beautiful, and possess striking peculiarities, and indeed there seems a never-ending diversity, both in color and form. The richest shades and most varied hues, of which nature is susceptible, are combined with every diversity of shape and magnitude, from the size of a small globe, an inch and a half in diameter, to an expanded bloom twenty inches in circumference. Our collection combines the most magnificent of every class, it being a *concentration* of the choicest and most interesting that could be selected from the six largest collections of Europe; and the numerous amateurs who have examined the flowers will pronounce upon their variety and excellence. Some of the kinds are yet so rare in Europe, that they were charged at from half a guinea to a pound

sterling for each root. We have made critical notes as to their color, size and form, as well as the height of the respective plants, and the following is the number of varieties:—13 kinds of white, and white tinged with pink; 8 of blush; 34 of scarlet; 32 of crimson; 11 of lilac; 18 of rose-colored and pink; 22 of yellow and straw-colored; 23 of orange and buff; 20 of red; 14 of mottled, or shaded; 7 of variegated and striped; 7 of ruby-colored; 6 of violet; 37 of purple; 22 of anemone-flowered; 14 of globe-flowered; 32 of dark mornie, and blackish-flowered. There are about fifty of the superior *Dwarf* varieties, which are now considered most interesting by connoisseurs.

Yours, very respectfully,

WM. PRINCE & SONS.

♣ Just as we were going to press, the flowers arrived. They are contained in three magnificent bunches, each of which is large enough for a nosegay for the largest giantess seen by the voracious Gulliver. The first contains fifty varieties; the second and third contain probably as many of mixed varieties. We tender our thanks for them. People should always take good care of their editors, as well as clergymen!

TEAK TREE.

Treasury Department, Sept. 18, 1832.

The Secretary of the Treasury has received some seeds of the *teak tree*, recently brought from Calcutta by Capt. Land. The great value of the timber particularly for ship building, renders the introduction of this tree into the United States an object of interest. And in the hope that it may be successfully cultivated in some of the southern parts of the United States, a few of the seeds will be transmitted to any gentleman who may be willing to make the trial.

CATTLE.

We understand that oxen for the stall have been sold in this vicinity at from \$4.50 to \$5.00 per hundred. Farmers who have good cattle intend to get \$5, but feeders do not intend to give quite so much.—Thirty or forty three and four years old steers from Vermont, fit for the butcher, were recently disposed of in Hatfield and other towns, at about \$4 per hundred. We are informed that ordinary beef for barrelling brings \$3.50 in Albany.—*Hamp. Gazette.*

FOREIGN MARKETS.

LIVERPOOL, Oct. 2.

Cotton.—1000 bales are the estimated sales of cotton to-day. There are reported 200 Brazils. Pernams, 23d; Maranhams, 9d to 9 5-8d; and about 800 in American descriptions, from 61d to 7 5-8d; Sea Islands, from 124d to 15d.

LIVERPOOL CORN EXCHANGE, Oct. 2.

At this morning's market there was a middling attendance of dealers, but the show of samples of new wheat being very large and pressed anxiously; they held off from buying till the close, when a few retail purchases were made at 5 10d a 6 4d for raw, and 6s a 6s 10d for prepared, being 3d a 4d per 70 lb. under last Tuesday's prices; for old there were no inquiries, and prices can hardly be quoted. New oats dull, and 1d lower, the highest being 2s 6d. Old quite neglected, as also beans, and Indian corn. There was a slow retail trade in flour, at 42s a 45s for new, and 45s a 47s for old. Oatmeal, too, went with difficulty at 24s a 25s and 20s a 21s per load.

LIVERPOOL COTTON MARKET, Oct. 3.

2,500 bales is the estimated quantity of cotton sold to-day, viz: 500 in Brazils, Pernams, at 9 to 9 1/2d; and Bahias at 8d to 8 1/2d; and 2000 in American descriptions, from 61d to 81d.

Oct. 4.—The transactions in the cotton market to-day amount to 1,500 bales, and comprise 60 Maranhams at 9 1/2d; 150 Egyptians, 8 5-8d to 9 1/2d; and about 1,300 in American descriptions, from 61d to 7 1/2d.

AGRICULTURE.

(From the Richmond Enquirer.)

MARL AGAIN.

Messrs. Editors:—In a former number of your paper, I read with pleasure, a communication from Mr. Ruffin of Prince George, in reply to the queries of "Henrico," respecting an earth which contains various impressions of marine shells, the impression alone remaining, while the shells, which served as the mold to the earth as it were, have entirely disappeared. I am acquainted with various localities of this earth, and no specimen that I have examined, has the slightest effervescence with an acid, although abounding with impressions of shells of various forms and sizes. If it contains lime, it must be attracted by some acid, that has a stronger affinity for it than the muriatic, for this acid will not disengage it. Where it has been chiefly observed by me, it presents itself a little higher up the country, than the deposits of shells, and nearer the granite ledge of rocks, but still below it. I know of no body of shell marl, nor indeed of this earth with the impressions, to the west of the granite ledge of rocks, which constitute the falls of our rivers. To one locality I will refer you, which you can examine in any of your daily walks. As you descend the hill in Richmond, on which the Governor's house stands, you will find, about half way down, on your right hand, a body of bluish earth, tinged with yellow, in which these impressions are to be seen. I have never tested a specimen from that locality, but presume, like others which I have tried, where the impressions of shells were more numerous, it will not effervesce with an acid. Mr. Ruffin considers the earth in question, the same with what he terms gypseous earth, and speaks of it, as containing gypsum, in small transparent crystals, or in powder resembling white sugar in appearance. If these crystals are to be found in what has fallen under my examination, they have escaped my observation. The author of the "Essay on Calcareous Manures," I am sure has the scientific qualifications, and I hope the leisure and willingness to prosecute this subject farther for the benefit of his fellow farmers.

The main point to be ascertained, as I conceive, is, whether the earth in question containing these numerous impressions of shells, but not effervescing with an acid, and thereby showing it contains no lime, is valuable as a manure; and would pay for the labor and time expended in hauling out, and spreading on our exhausted fields. My conjectures, hastily formed, and without the benefit of analysis or application to the land as a means of improving the soil, are, that the earth in question is a mere clay, that has imbibed the forms of shells, which in the course of ages, and by the action of water, or some other operating cause have entirely disappeared, and with them all traces of the carbonate of lime. I have seen similar impressions of shells on a sandstone rock on the top of a mountain, the sandstone not presenting the least vestige of lime. Impressions of leaves, and other vegetable substances are to be seen on the slate, which is found in our coal pits, and impressions of fish and insects are often to be met with in the cabinets of mineralogists, while the leaves and fish, bone and all, have entirely disappeared. It is a well established fact, ascertained by the practice of many experienced and judicious farmers, that the application of lime to land has an undoubted tendency to improve it; and I conjecture it is to the carbonate of lime contained in the shells, that Mr. Ruffin and other gentlemen, who have been using what we term marl in this part of the country, (but which more properly speaking is a collection of shells imbedded in sand or clay, or crag, as it is sometimes termed in England,) must attribute the improvement of their farms. If, then, the ingredient of marls on which their fitness for agricultural purposes depends, is the

carbonate of lime, and by the addition of an acid, no lime can be discovered in this earth, which has various impressions of shells in it, it would seem that it cannot have the same tendency to fertilize the soil that lime would. It being a clay, it would have the effect with any other clay, without impressions, to alter and improve the texture of silicious soils, which have too little adhesion. I know of no gentleman having used pure clay with this view; if there be any in this part of the country, he would confer a favor by communicating the result of his experiment to the public.

A word to Mr. Ruffin—I consider his Essay on Calcareous Manures a most valuable work, and one that ought to be in the possession of every farmer.—From it I have derived much information and satisfaction, and beg to tender him my thanks. There is one subject, however, which I wish he had treated with more precision, and have cleared away some of the mist which surrounds it. I allude to marling in England. In note G, appendix, page 207 of his Essay, he says, "the following quotations will show that the term marl is frequently applied in Britain to clays containing no known or certain proportion of calcareous earth—that when calcareous earth is known to be contained, it is seldom relied on as the most valuable part of the manure." Now, although I admit great obscurity prevails in most of the English authors, who treat on the subject of marl, yet on the whole, it seems clear to my mind, they value such marl and clay as effervesce with acids, more highly than such as do not. If the application of clay, which contains no lime to a silicious soil, will produce more benefit than the application of shell marl, I should like to be certainly informed of the fact; for, I am at this moment using every exertion to apply shell marl as extensively as I can to my land, and reject the use of the clay with numerous impressions of shells, which "Henrico" speaks of, and pure clay free from impressions, both of which I have in great abundance, and shall continue to use the shell marl, until I am convinced that the other substances would produce a greater improvement. I hope Mr. Ruffin will allow me to call his attention to one or two quotations. At page 215, appendix, he says, "it is to be inferred, however, that the clay was thought most serviceable, as Mr. Rodwell says: Clay is much to be preferred to marl on those sandy soils, some of which are loose, poor, and even a black sand."—In the very next sentence, which Mr. R. does not quote, this Mr. Rodwell goes on to observe: "By clay is to be understood a grey clayey loam, some of it brick earth, and all has with vinegar a small effervescence." Thereby showing that the clay contains lime, and is in effect, a genuine marl; for, Thompson in his chemistry defines marl to be "a mixture of carbonate of lime and clay." At page 301, Young's Farmer's Calendar, 12th edition, London, 1822, it is observed: "Marl is of various sorts, and lies in various strata; in some places it is a soft, fat, soapy substance; in others, it is hard as chalk, which are called stone marls; sometimes you find it white, sometimes grey, also, blue, yellow and a dark brown. In some counties you have shell marl, which is composed of nothing but decayed shells; but the general circumstances in which all true marls agree, and which denote them to be real, is the effervescence with acids;" and farther on, the same page, Young observes: "When marl is not to be had, clay in many places is to be found at a moderate depth. This manure has few of the qualities by which marl is to be known, but yet it works wonderful improvements on many soils. In some light lands, it has been preferred by many very good farmers to *indifferent sorts* of marl. But the great point concerning clay is not so much the comparison with, as the use of it, where no marl is to be had. About sixty or seventy loads an acre, at the same expense as of marl, will work an improvement great enough to show how much mistaken those men are, who think nothing but the finest marle worthy of

attention." In Anderson's Essays relating to agriculture, 3d edition, Dublin, 1779, vol. 1st, page 320, he observes: "The reader may ascertain the proportion of calcareous matter contained in the marl by the same process already described for trying limestone; and thus compare the intrinsic value of the lime and marl in any case. For, this is always in proportion to the calcareous matter contained in either." Farther on, the same author remarks, page 325: "Shell marl is always found in low places, that either are or have been covered with water. It is, therefore, a pure calcareous matter, without any other mixture than the mud and other sediments that may have sunk to the bottom of the water, in the ponds where it has been formed. As the proportion of the sediment that may have mixed with the shells may be very different in different situations, this kind of marl, like all others, may be more or less pure, and of consequence of greater or smaller value to the farmer." Here we are told that the shell marl itself, which Mr. Ruffin uses, is of greater or smaller value in proportion to the carbonate of lime it contains. In Sinclair on Husbandry, 3d edition, Edinburgh, page 203, he says: "Dr. Coventry remarks, that the value of most marls is nearly in proportion to the quantity of lime or calcareous earth in their composition."—Farther on, "Clay marls, however, are often very weak and impure; hence it often requires sixty, and in some cases even eighty tons of marl, to supply seven, or eight tons of the carbonate of lime." Here the object must be, to add lime to the soil, and not clay. But enough of quotations! Mr. Ruffin in his note, and in the body of his Essay, page 109, I apprehend, rather adds to the doubt, whether clay or marl is preferred in England; and may perhaps be the unwilling instrument of leading some of his brother farmers astray, which, I am sure, is far from his intention. And although Young says, in the above extract, "In some light lands, clay has been preferred by many very good farmers to *indifferent sorts* of marl," yet I think the whole tenor of the passage would lead one to prefer good marl, to a clay, that did not effervesce.—Clay may render a chalky soil less calcareous, but we have no such soils in this country; all our lands hereabouts at least are deficient in lime; moreover, pure clay is a manure for light land alone, while marl improves both stiff and light soils. I should suppose that "Henrico" would do well to direct his attention chiefly to those beds of marl, where the shells are found in the greatest abundance. This he may do with the most perfect confidence, that his land will rapidly improve by the application. At some leisure time, he might cover an acre or two, with the blue earth, in which the prints of various shells are to be found; let him wait the result, and watch the effect; for, after all, actual experiment will prove the most satisfactory test. I commenced with the intention of being as brief as possible, but find I have got into a long dissertation, and must apologize to you, for the waste of your time and space. M.

(From the Genesee Farmer.)

CULTURE OF BARLEY AND PEAS.

Western, Wood Co., Ohio, Sept. 4, 1832.

MR. EDITOR:—It my misfortune to live in this rural part of the world, where I have not the privilege of observing the practices of skillful and scientific farmers, for my own improvement. I came into this country two years since, and have cleared one hundred and sixty acres of heavy timbered land, and now wish to receive the fruit of my labor in the cultivation of my farm, by pursuing the most profitable rotation of crops. I wish to be informed, through the medium of the Genesee Farmer, whether barley and peas are considered sure and profitable crops; likewise, what varieties of each are considered best, and what soil is most congenial to their growth. If you or some of your correspondents will give answers to the above, it will much oblige

A YOUNG FARMER.

Barley thrives best in a moist, cool climate, upon a deep, rich soil, rather moist than dry.—English writers say, "dry and warm," but it must be understood, that the difference in climate and soil between England and America, will allow of this difference of expression, and yet both mean much the same thing. Barley, like oats, is easily affected, when upon thin, dry soils, by drouth. There are a great number of varieties of barley, some of which are sown in the fall, and are called winter barley; others are sown in the spring; the latter is mostly cultivated in this country, being considered most profitable. There are also several varieties of spring barley, but we believe the variety known as the *long eared*, gives the greatest crop—it may be known by the flat appearance of the ear, others having a square shape like wheat. The quantity of seed required per acre should be varied according to the strength of the land, and may be stated at from two to three bushels, weak soils requiring more. Where soil and climate are favorable to its growth, the crop may be counted at from thirty to fifty bushels per acre—its price depends upon its proximity to a market, as, being cheap grain, it will not bear long transportation.

Peas are raised but little at present in this section of country, except as a preparatory crop before wheat; and even then we do not consider them as profitable as potatoes. The varieties cultivated mostly by farmers are the small June peas, the marrowfat, green and black eyed peas—the two latter varieties command the greatest prices in the New York market. Most of the peas raised in Western New York are fed to hogs, either from the ground without threshing or threshed; they are soaked or ground with corn. Hogs thrive well upon them, but they are not suitable food for the latter part of the time of fattening.

[Editor Genesee Farmer.]

WHEATLAND, (N. Y.) AGRICULTURAL SOCIETY.

[We publish the following for the purpose of giving our southern readers an idea of the mode and expense of cultivating corn and potatoes in the western part of New York. It will be perceived that, though the method of cultivation may be generally advantageously imitated in the middle and southern states, the expenses, unfortunately, cannot be approximated to "by a long shot." Mr. Harmon estimates the expense of manure "at one shilling per load," (124 cents) and spreading dung and ploughing at \$1.50 per acre. We should be glad to get our ground manured and ploughed for even double this cost.]

(From the Genesee Farmer.)

On the Culture of Corn and Potatoes.

In compliance with the request of the Secretary of the Wheatland Agricultural Society, that I give my views on the raising of corn and potatoes, I would offer the following:

As soon as the frost is out of the dung, or about the first of May, I haul out my barn yard and hog manure on to clover sod, twenty loads per acre. On the 10th of May I spread, and plough the dung under that I spread each day. Plough to the depth of seven inches. Twenty loads of the coarsest straw dung, evenly spread, will not be much in the way of the plough. As soon as your field is ploughed harrow with a light harrow, about three acres per day with one team, then mark three feet and a half apart. I make use of a marker made with a stick for a head long enough for three teeth, with fills. A man with a horse will mark ten acres in half a day.—The 20th May, I plant across the marks, three feet and a half apart; plant the twelve rowed yellow, not more than four kernels in a hill, with one quart of pumpkin seeds per acre. As soon as the corn is up so as to follow the row, commence with the shovel plough; turn furrows in the row, and go as near the corn as possible and not cover it up. In two weeks, go over it the other way, with the shovel plough; and two weeks after, take the

common plough and go through the other way, two furrows to the row; turn the furrows to the corn. As soon as the corn is nearly all glazed, cut with the sickle at the ground, and shock it as you cut it, about one hundred hills in a shock, and tie the tops with a stalk. About the first of October, husk and bind the stalks, and let the corn lie on the ground three or four days; then crib; the stalks to be drawn and stacked.

I sow wheat after corn, and seed with clover in March. The ground should be ploughed where the shocks stand. I go through and cut three rows, then plough and set the corn on; and after the corn is all cut and shocked, plough and sow wheat, three pecks per acre, flint wheat.

I plant about one-eighth of my ground to corn. The expense of raising corn in this way will cost as follows for ten acres:

20 loads of manure at one shilling per load.	
There will be a drawback of one-half of the manure that will remain for the next crop. Say 100 loads at 124 cents per load,	\$12 50
Spreading dung and ploughing \$1 50 per acre,	15 00
Harrowing, 50 cents per acre,	5 00
Seed corn and pumpkin seeds,	1 25
Ploughing three times, at 37½ cents per acre,	11 25
Cutting and shocking, 75 cents per acre,	7 50
Husking and cribbing, \$2 per acre,	20 00
Drawing and stacking stalks, 20 loads,	3 12
Drawing pumpkins, 10 loads,	1 25
Marking the ground,	50

The expense on 10 acres, or \$7 73 per acre, \$77 37

The amount raised on 10 acres, at 35 bushels per acre, 350 bushels, at 44 cents per bushel,	\$143 00
20 loads of stalks, at \$2 per load,	40 00
10 loads of pumpkins, at \$1 per load,	10 00

\$193 00

Amounting to, per acre,	\$19 30
Expense,	7 73
Net profit, per acre,	\$11 57
For my potato crop, prepared as for corn, manure and ploughing and harrowing per acre,	\$3 25
For 12 bushels seed, at 25 cents per bushel	3 00
Two ploughings, per acre,	75
Cutting and planting in drills, per acre,	4 00
Digging, per acre,	6 00

Expense of crop,	\$16 00
The amount raised, 150 bushels, at 25 cents,	\$37 50

Net profit, per acre,	\$21 50
I think the lady whites and the large pale blue, for yielding and quality, are before any that I have raised.	

RAVISON HARMON, JR.

Wheatland, Oct. 13, 1832.

HORTICULTURE.

(From the Baltimore American.)

HORTICULTURAL SOCIETY.

GENTLEMEN,—Under favor, I shall now proceed to close my remarks on the formation of a Horticultural Society.

Since my last communication, having had an opportunity of hearing the sentiments of several gentlemen on the subject, I am inclined to think that the greatest difficulty now to be surmounted, is the want of an interchange of views amongst those who are mostly interested in the conclusion of this business. Every one with whom I have conversed seems to feel the want of such an association, every one wishes that we had a Society, but no one seems inclined to come forward and begin the work. Many are withheld by the fear of meeting with difficulties, most of

which are imaginary ones. Some think that it will be necessary to raise large sums of money, (no easy matter) for the purpose of forming a complete Garden and Nursery with hot-houses and the other et ceteras of such an establishment. Now, it is not only *not necessary* that the Horticultural Society should have its own garden, but many competent judges entertain doubts of the *expediency* of encumbering a society with one. Without multiplying proofs on this point, it will, I trust, be sufficient to adduce the opinion of a man whose enlightened zeal and well directed labors have done much for the advancement both of Horticultural and Botanical science; I mean the editor of the London Gardeners' Magazine, John C. Loudon, Esq. In the course of the investigations made concerning the management of the London Horticultural Society's garden, this gentleman was called on for his opinion, which he gave as follows:—

"I consider that the Horticultural Society has no more occasion for a garden than the Society of Arts has for a workshop or manufactory. No society ought to attempt any thing which can be done by individuals. There is nothing that has been attempted by the society that could not have been better done by individual gardeners and nurserymen. Instead of collecting and cultivating all the fruits, with a view to naming them, if the society had offered *handsome premiums* to the nurserymen and arranged with some private nurseryman or other gardener, commercial, private or amateur, for every different fruit, all the fruits would have been collected and named, and might have been published by the society at a fraction of the expense now incurring for the same object. I should say the same thing as to culinary vegetables, flowers, and experiments of every kind; firmly adhering to the general principle of the Horticultural Society acting as a *stimulus to others* and entering into no details of itself."—Gard. Mag. vol. 6, p. 248.

A little farther on, after showing the erroneous method which had been followed in the management of the garden, he adds, "The garden, in my opinion, might be given up without the slightest injury to the advancement of Horticulture."—*Ibid.*

We may certainly conclude, *ab actu ad posse*, that a garden is not essentially necessary to the existence of a society, for the Provincial Societies of Great Britain, not to speak of those nearer home, at Philadelphia, &c. exist, and are very beneficial to the communities in which they exist, yet they have no gardens of their own: our community may enjoy the same advantages without going to more expense. The funds of the society may be better employed, they should be husbanded in order to provide premiums for those who effect any of the objects of the society, and afterwards to erect a Hall of Assembly and form a Library, and though these two last objects should never be lost sight of, yet it is not necessary that they should be commenced immediately.

But how are any funds to be raised at all? By a trifling annual contribution from each member: I say a *trifling* one; that of the Pennsylvania Horticultural Society is fixed at *three dollars*,—that of the Massachusetts Society *two dollars* per annum with an admission fee of five dollars. These are *trifling* sums, not burdensome to individuals, and at the same time highly useful in forming those "masses" of the Emperor Napoleon's *Historiette*, without which we must not hope to obtain great and satisfactory results.

Now as to the manner of proceeding, it appears to me to be very simple. Take for example the "Proceedings on the formation of the Massachusetts Horticultural Society."

"On the twenty-fourth day of February, 1829, a meeting of sixteen gentlemen was convened, at the office of Z. Cook, Jr. Congress street, for the purpose of instituting a Horticultural Society, when the Hon. Jno. Lowell of Roxbury, was chosen Moderator, and Z. Cook, Jr. appointed Secretary. It was

then voted that Messrs. H. A. S. Dearborn, Z. Cook, Jr. and S. Dawber be a committee to prepare a constitution and by-laws." Five other gentlemen were then appointed a "committee to obtain subscribers."—Constitution, &c. p. 7 and 8.

On the 17th March a second meeting was held, at which the draft of a constitution and by-laws was read and adopted. Application was then made to the Legislature; on the 12th of June of the same year an act of incorporation was passed, and the Massachusetts Horticultural Society was established.

Why may not we do the same? Can we not find among us sixteen citizens, zealous for the public good, ready to come forward at the call of the public and set their hands to this good work? We hope so. Let our fellow-citizens think seriously of this: let them think of the incalculable advantages to be derived from so desirable an institution, advantages which will be enjoyed by themselves and by their posterity; let them, I say, reflect seriously on these things: then put into one scale the paltry pittance which will be drawn from each individual purse, and into the other, the benefits I have spoken of, and after this, let them decide whether they will sacrifice all these, aye, and their honor too, "for so much trash as may be grasped thus!"

Now, gentlemen, I have done and I ought perhaps to apologize for having drawn so largely upon your patience: but let the urgency of my subject be my excuse. I wish that in so noble a cause, the pen had been wielded by an abler hand; I could offer, at best, but a few imperfect hints, which the judgment of your readers will readily seize; but if my feeble efforts have induced any of my fellow-citizens to turn their thoughts to this important subject, I shall feel myself amply rewarded. Yet I hope they will not content themselves with thinking about it, but be prepared to act when the occasion shall present itself. Let them do this and a society will soon be established; the reproach which has clung to us, already too long, will be wiped away; the enterprising spirit of our citizens will no longer be frittered away in individual efforts, but their energies directed by the united wisdom of the association will produce effects which will redound to the honor of the Monumental city and her public spirited inhabitants. D***.

(From the Genesee Farmer.)

MANDRAKE OR MAY APPLE.

Falls of Niagara, U. C. Sept. 30.

The mandrake or May apple is found in great abundance in all the woods and shady grounds round this neighborhood, nor does it appear to thrive best in any particular soil or clay loam. Provided decayed vegetable matter keeps the roots moist, it attains a very large size. In August from 10th to 15th, this fruit began to ripen; but the largest kinds were not in perfection until the 15th September, and still remain in great profusion in the woods. Cattle do not eat them, nor can I observe that pigs do either, although both destroy great numbers under their feet. The 15th September, my farmer collected a basket full containing five dozen, yellow as gold, and scenting the house with perfume not dissimilar to that of the pine apple. All were nearly of equal size, and one which I measured gave as follows: Circumference, 7 1/2 inches, from end to end, 4 3/10 inches. Not having scales, I was unable to ascertain its weight. After dinner, they were produced with the desert, squeezed by each person in his wine glass, and mixed with powdered loaf sugar and a little old maderia. Three of the party had been in the West Indies, and declared the mandrake to be fully equal in flavor to that luscious fruit of the tropics, the Golden Grenadilla.

NOTE.—Wild mandrake, *Podophyllum peltatum*, is a plant belonging to the thirtieth class and first order of the Linnean system, and is thus described. Calyx three leaved, corol about nine petalled, berry

one celled, crowned with the stigma, leaves peltate, roots perennial and creeping, about the size of a goose quill, color dark brown, stem herbaceous, erect, about eighteen inches high, divided into two petioles or leaf stalks, flowers and fruit axillary, grows wild in half shady places, in deep alluvial or vegetable mold. May be propagated from seed sown in May in light soils, or more readily by cuttings from the roots, observing that each piece contains an eye or bud. Medicinal quality of the root, a powerful cathartic, varying in its operation according to the time of gathering, which renders it an uncertain purgative. In some instances its operation is drastic and unmanageable. Was it not for this variation in its effect, it would at once take the place of some of our imported drugs.—The fruit of this plant, both in size and flavor, somewhat resembles that of the *Passiflora incarnata*, or purple fruited passion flower, or Grenadilla, which is a native of warm climates, and is eaten in the manner described by the writer of the above.

(From the Working Man's Companion.)

VEGETABLES.

In the early part of the reign of Henry VIII. not a cabbage, turnip, or other edible root, grew in England. Two or three centuries before, certainly, the monasteries had gardens with a variety of vegetables; but nearly all the gardens of the laity were destroyed in the wars between the houses of York and Lancaster. Harrison speaks of wheaten bread as being chiefly used by the gentry for their own tables; and adds, that the artificer and laborer are "driven to content themselves with horse corne, beanes, peason, oats, tares, and lentiles." There is no doubt that the average duration of human life was at that period not one-half as long as at the present day. The constant use of salted meat, with little or no vegetable addition, doubtless contributed to the shortening of life, to say nothing of the large numbers constantly swept away by pestilence and famine. Till lemon juice was used as a remedy for scurvy amongst our seamen, who also are compelled to use salted meat without green vegetables, the destruction of life in the navy was something incredible. Admiral Hosier buried his ship's companies twice during a West Indian voyage, in 1726, partly from the unhealthiness of the Spanish coast, but chiefly from the ravages of scurvy. Bad food and want of cleanliness swept away the people of the middle ages, by ravages upon their health, that the limited medical skill of those days could never resist. Matthew Paris, a historian of that period, states that there were in his time twenty or thirty hospitals for lepers in Europe.

RURAL ECONOMY.

BOTS IN HORSES.

Mr. SMITH: Morgan Co. Geo. Oct. 28, 1882.

I send you the observations which I told you in my last I had in reserve; if you think they are not altogether out of season and will give them an insertion, I promise you they will be the last I shall trouble you with. Perhaps I have appeared too often in the Farmer already. My reason for not sending them sooner was, I thought your readers would be tired of the subject of bots; some delay will make the subject new again. They are in answer to the observations of Mr. Ellis on my opinion of bots and their treatment. I am pleased with the number of practical and useful facts Mr. Ellis gives, more especially as they prove to my mind more fully than before, the correctness of my opinions; at the same time he makes some errors; those errors I shall endeavor to point out; if by so doing I can convince him and others that my opinions are correct, I shall be gratified, and I should be equally as much, if not more gratified, if he could convince me that I am altogether wrong. To

be certain that a disease so frequent and so dangerous, to which so valuable an animal as the horse is subject, was treated exactly correct, would be gratifying to all.

Mr. Ellis says: "All observant people, that have dissected many horses, know that they have a sensible and insensible part to the maw." All persons acquainted with the anatomy and physiology of the stomachs of animals, will know this observation to be altogether erroneous; no practical experiment has as yet, nor do I think ever can, or will, prove such to be the fact. This is altogether assertion without any experimental proof. I cannot conceive of any experiment by which such an assertion can be proven, nor does a knowledge of the anatomy of the stomach of animals bring any thing to support it. Different sets of nerves are formed by nature, to produce sensations peculiar to themselves, by impressions made on them. The nerves of sight, for instance, give us no knowledge of sound; but as far as we know, all the nerves of sensation, although they have their peculiar uses, yet they all have one common quality of communicating sensations of pain when injured by external violence. Now, although the nerves of the stomach have their peculiar impressions produced on them, and do not recognize other impressions peculiar to other nerves, the nerves of the stomach for instance not being susceptible of the peculiar taste of sugar, yet we have no knowledge of all or any of them being insensible of violent external injury. I presume, of course, Mr. Ellis will not assert a part of the stomach to be without nerves.

This opinion of a sensible and insensible part of the stomach not being supported by any positive experiment, or by our knowledge of the anatomy of the part, must be considered as an absolute error. The theory, then, that "bots while attached to the insensible part of the stomach do no injury, but are conducive to health, but if from some unknown cause they attach themselves to the sensible part, they keep up great irritation, and sometimes gnaw through and destroy the horse," not being founded upon facts, does not require further notice. It would, however, be difficult to explain how they should know, or why they should select, the sensible part to gnaw through; my own dissections, which I expect have been as numerous as Mr. Ellis', give me no knowledge of this choice in bots what part they will gnaw through.

Theory formed from facts is always useful, inasmuch as it collects, arrays and records facts; but a theory formed from imagination, without real facts to support it, or by warping the fact to suit the theory, is worse than useless; it puts error in an imposing form, and while we are pleased with the beauty of a fine theory, we forget that we are led astray from the ways of nature which is the object of our pursuit.

"Since the horse that was killed might have been frantic with pain from those insects, and so leaped the fence in a headlong manner, and the one drained of his last drop of blood, may have been laboring under the same disease." Here Mr. Ellis changes what I state as facts, into what may, or might have been. The horse that killed himself was to all appearance in good health; he, with others, was let loose in the yard; after running over the yard for some time, they all leaped the fence; this one leaped on a stake and was killed. The bled horse was not drained to the last drop of blood; he was used very rough, and fell on a small stump, which I believe was the immediate cause of death; to all appearance he was well, except a dislocated shoulder.

Mr. Ellis appears to altogether mistake the object I had in view. I state it as my opinion, that bots never cause the death of horses by eating through the bowels while the horse is alive, but that death for the most part is caused by colic, and that after death, bots perforate the maw; why they should do so was still to be explained. I say I think they do it from one of two causes, either for food or to make their escape. I am disposed to believe the latter, perhaps

it may be from both. I further state, that while we are wasting time with remedies for bots, such as fowls' bowels, &c. &c. the horse dies with colic. I say experiment proves we know of nothing that can be given that will destroy bots; that all efforts with this view are useless; but that we do know what will generally cure colic, and that if the notion of bots killing horses was discarded, and all such cases treated as colic, our treatment would be more successful. Now, all the cases given by Mr. Ellis, as I think I will show, prove the opinion I have given to be correct. But his main object appears to be to prove that bots do not gnaw out to make their escape, which if he could prove satisfactorily, would not operate against the opinions I have advanced; whether they do it for food or to escape, or any other purpose, so as they do it after death, is an object of no importance. Out of the numbers of instances given by Mr. Ellis, of supposed cases of bots, dissection proved that in not one single case was death caused by bots. We all know that our success in treating diseases for the most part consists in knowing the cause and nature of the disease; had those cases been treated for what they were, instead of the imaginary disease of bots, Mr. Ellis would probably have had less experience in dissection; some of them might have recovered. Bad proof he gives us by his own statement of the skill of himself and his attendants in judging whether bots were eating through the maw or not, since all of them were supposed to be such, and treated as such while living, and proven not to be such after death; let us examine his cases one by one, and see if this is not fact.

Case 1. "About five years since, I put the entrails of a chicken down the throat of a horse supposed to be laboring with bots; the consequence was that he died shortly after. Upon dissection, say in two hours after, the entrails were chiefly destroyed; the bots had left their hold, some were found fast to the gizzard and liver, but death was occasioned by a large worm having perforated the maw, and drawn itself half through, &c.; this maw was not in the least injured by bots, though they were numerous." In this case Mr. Ellis says this worm about eight inches long caused the death of the horse. I would say the horse died of colic; the worm must be considered as wishing to make his escape, but if he eat through before the horse died, can we think in two hours after he had only been able to draw himself half through? I would say the size of the worm shows he had been a long time a contented tenant of his dwelling, but when the horse died from colic, he was no longer pleased with his abode and sought another; two hours later had thus far effected his purpose. "The maw was not in the least injured, though they were numerous." Why does Mr. Ellis think the bots had left their hold, when no mark was left on the maw of their having had any on it? I have no doubt this supposed case of bots was a case of colic, and had it been treated as such, the horse might have recovered. Why then not give us the case as dissection proved it to be, and say, Mr. Ellis had a horse sick with colic; he supposed it a case of bots, and while he was wasting time forcing fowls' guts down his throat the horse died; dissection proved it not to be a case of bots, as the maw was uninjured by them even two hours after; the bots were feeding on the fowls' entrails, but a large and uncommon worm, not relishing such food, had cut a hole through the maw after death, and was endeavoring to make his escape. This is really the true statement of the case.

Case 2. "While absent from home the last fourth month, I lost a noble mare. My people supposed she had died with the bots; she was in good flesh. Upon my return I had her taken up, although she had been buried twenty-four hours, knowing her to have a lung complaint, &c. She had bots both sticking to the maw and loose, but no injury done to the part; she appeared to have died without any inflammation of the bowels, and though dead so long the bots had not attempted to gnaw their way out." In this case, dis-

section proves positively, that this mare did not die from bots; surely Mr. Ellis' people did not mistake death from a chronic disease of the lungs for bots; if they did they were really indifferent doctors; she had symptoms supposed to be produced from bots, but it was proven she had not the disease called bots. What then was the matter with her? Alas, she must have died from colic; a dose of laudanum and oil would probably have saved this noble animal's life; but this unfortunate notion of bots caused this animal to die in the *extremest* pain; perhaps still further tormented by cramming a chicken's bowels down her throat.—The next two cases are named without particulars.

Case 3. "I was presented with a colt three years old for dissection; he was very far gone in decay; I gave him a little *asafoetida* to see if it would create artificial strength; he was put in good pasture and ate heartily the first day; the next day he became very uneasy, and was down; on the third morning I killed him; the maw was much distended; upon opening immediately after death, the bots were found collected into the small gut at the outlet of the maw or first stomach, and no food had passed during the period that I had him, &c.; his maw was not in the least injured by them, but in a few minutes he must have fallen a victim to these harmless insects. They had so completely closed the bowel that your finger could not be passed through, &c."

Mr. Ellis pushes his point very far in this case.—Dissection proves that the maw was not injured by bots; yet, says he, in a few minutes he must have fallen a victim, &c. This is a perfect case of marasmus, and had the dissection been pushed further, the glands of the mesentery would have been found indurated or schirrus. In such cases the appetite is morbidly great; here it was still further increased by the use of *asafoetida*; the stomach was filled by access to good pasture; in consequence of spasm the lower orifice was closed; no food could pass out; a colic was the result; the bots, surrounded with the oily contents of the stomach, were for getting away in a hurry, and came in crowds to the orifice of the stomach; it was closed with spasm, and the animal down and near dead with colic. Now Mr. Ellis kills him and says the bots would have killed him in a few minutes. Suppose, in this case, the colt had been given a large dose of laudanum to relax the spasm, and then a large dose of oil to carry out this quantity of bots that were endeavoring to get out, and empty his stomach of this large quantity of food, may his life not have been prolonged?

Case 4. "I knew a horse two years ago that came in from the plough at night apparently well; in the morning he was nearly dead, and expired shortly after; he was opened pretty soon, as soon as could be conveniently done; his maw was gnawed through; upon the sensible part [what part this was I do not know, although I have been a surgeon and constant student of anatomy as well as comparative anatomy for twenty odd years] and the last mess he had eaten, which was a large one, entirely emptied into the chest; this horse died with bots."

I would want no better case in support of my opinion than this; a horse eat a large meal; in the night he was attacked with colic, and in the morning died; as soon as convenient he was opened. This, I say, would have given full time for the bots to perforate the stomach; accordingly it was found perforated, and so distended was it with food that its contents were forced out at the perforations made by the bots, entirely, Mr. Ellis says, into the chest? I do not understand how it could get there, as the bots would have had to perforate the diaphragm also. Probably this is a little mistake; yet Mr. Ellis says positively this horse died with bots. Bots had about as much to do with killing that horse as they will have to do in killing me. The fifth case is a colt only two months old, and diseased at that, which died twenty-five years ago. The case is not applicable to the present inquiry, and should be passed over.

Out of the whole of these cases given by Mr. Ellis, I do not find one of them that makes me believe death was produced from bots eating through the maw while the horse was living. A fair and impartial examination of the whole of them proves that they were supposed cases of bots while living, and proven by dissection after death not to be so. I state that horses out of use seldom die with colic, or what is called bots. Mr. Ellis, in contradiction to my observation, says: "I have known many young horses to die at pasture with what I believed to be bots;" but as all those supposed cases of bots stated by him proved not to be so, I think these young horses at pasture may have died from other causes also.

I will now relate a few cases that have lately come under my observation. Sometime ago sitting in my shop with several gentlemen, a country gentleman came in and inquired if any of us could tell him how to cure his horse of the bots. Knowing the usual custom of countrymen when they come in town from some distance (which is, as they expect to stay in town nearly all day, to feed well the night before with corn, that their horse may support a day of starving) I supposed of course he had a colic, and told him to take one of my bottles of oil, of which I had many, and some laudanum, give them to his horse and start home; he however was not satisfied with my advice, and begged with so much earnestness that we would go and see his horse, that we all started, he leading the way. Seeing so many of us going out of town with the countryman ahead hurrying us on, attracted attention as we passed, and a number of others inquired where we were going and joined in with us; so that when we arrived at the place we had a large company of planters, lawyers, doctors, &c. and as luck would have it, several noted for their skill in such cases, we found a very fine grey horse down, biting his side, rolling and tumbling about in the greatest apparent agony. I took a seat under a tree that I might observe the disease and hear the opinions expressed at so large a consultation; every one to a man who gave an opinion, agreed unanimously that it was a case of bots, that much was undoubted; but for the treatment I do not know if any two gave the same prescription. Bleeding in the mouth that the horse might swallow the blood, fish brine, molasses, fowls' guts, copers and I know not how many other prescriptions were made; all as certain cures. I would not have had my horse while well to have taken a small part of the prescriptions for ninety-nine hundredths of his value. Truly it is astonishing to me how any horse that has a colic and is put under treatment for bots ever does get well; the treatment for one sick horse is for the most part sufficient to kill several well horses. Could they think on these matters they should be very glad to find their cases considered as hopeless, and treatment cease; they would be like L. Sterne, who had hopes of his recovery as soon as the doctors considered his case hopeless, for they then ceased to give medicine. I now thought it time I should give my opinion. I considered it a case of colic, and gave my reasons; first, the contracted or drawn up appearance of the horse's abdomen, which all appeared to consider as a certain sign it was a case of bots, was no proof to me; a colic might be caused by an over quantity of solid food without much wind, in which case the violent spasm or contraction of the bowels would give his abdomen a drawn up appearance; this is the most violent and dangerous form of colic; men as well as horses are subject to it, and a free discharge of feces gives the most certain hope of relief; or a colic may be less violent and not give much pain until violent fermentation takes place, with a disengagement of much air or gas, in which case the bowels will be much distended and the abdomen swollen; in such cases a free discharge of wind gives the best hope of speedy relief; in this instance as is often the case, the over quantity of food was such as to produce violent spasms and pain, before fermentation sufficient to pro-

duce quantities of air and consequent distention of the abdomen had taken place. Again the horse biting his side was no proof he had bots, because all could see he did not bite near the place where bots were to be found. And again, and this I wish Mr. Ellis would think upon, (however natural and plain it appears, I do not recollect seeing it noticed any where) it is an important sign in furnishing an opinion of this disease; if the pain a horse suffered with was produced from many, very many, bots gnawing through his maw, &c. the pain would be continued and unceasing from the time he was taken till he died; no person will think they would all gnaw awhile, then all stop together, like clock work; hundreds of bots therefore all eating through the stomach, would produce constant, continued violent pain. If, on the contrary, the pain were produced from colic, that is violent spasm in the bowels, there would be moments of relaxation and consequently moments of relief; these moments of relief would be longer or shorter according to the violence of the disease; they would be considerable at first, and in cases ending fatally become more seldom and shorter, until the last agony of death, when they would cease to be perceptible; in cases of colic without distention, the pain is mostly produced by violence of spasm, and those moments of ease are more distinct and perceptible; but in cases where the distention from wind is very great, the bowels and stomach suffer from continued distention, and even where there is small relaxation of the spasm the pain still continues from distention; consequently in colics with much wind, the pain is more continued; but still if we notice we will see that he has moments of ease or rather of less pain. Now in this case, I forced the horse up and drove him a little distance; he would appear to move a few steps in less pain, then begin to bite his side and want to lie down, then move on again until a violent spasm would come on, then he would tumble down in agony. Now under all these symptoms my opinion was he had colic; he had been dosed with a large dose of toddy, and as he dunged while we were there, I thought he would soon be well, advised the man to get on his horse and be off, least another set of doctors should come and recommend more medicine to kill him. I heard not a dissenting voice; the man in little time started home and here was an end of the case of bots. Now had he only taken a fowl's guts, been bled in his mouth, took coparas, or a male craw fish (*a female craw fish kills*) it would be a case of bots cured.

Now, Mr. Ellis, have you ever seen a case of bots, but what if you notice you could perceive those short periods of relaxation and ease, or in cases without swelling of the belly were they not very perceptible? I never have; do not those intervals of pain convince you the disease is produced by spasm, and not continued gnawing of the bowels by bots. If you have not noticed this I think you will the next case you have.

I will relate one more case; some time ago, I went to my plantation in Clarke county; my overseer's wife told me Mr. Lane (the overseer) had just left one of my brood mares dying with bots; I went to examine her, she was in a piece of new ground, and the place showed she had been tumbling and rolling about very much; I with difficulty forced her up; her abdomen so far from being swollen was drawn up considerably; she quickly lay or rather tumbled down again; this case really staggered my belief; the animal was not in use, had no feeding but what she gathered in the fields (which had no pease in them) and at the shock pens and straw stacks, that I knew of; why she should have colic I could not tell; truly here was just such a case as would have been called a case of bots. I began to think it might be so, I considered her's a gone case and would have had her opened then, but all the hands were in a distant field. News now came that one of my negroes was attacked with apoplexy, I left her and was gone more than an hour; when I returned, had I found her dead I would

have thought her case if not bots something much like it. Mr. Ellis, would you not have said this was a case of bots? But to my surprise she appeared better; she had dunged twice, the passages were loose and consisted much of undigested Indian corn; when I found Mr. Lane, who is an experienced man in all things connected with a plantation, he told me he had found her with the grubs, and considered her so far gone he had done nothing; I asked him if she might not have had colic; he could not believe so, as she was not swollen; but regretted he happened to be out of molasses which he said would make the grubs let go, but as her case was so hopeless to appearance, he did not think it worth while to send for any; my old saddle horse (Morton) he said was as bad last year but he soon cured him with molasses; he could not be made to believe she had colic, and would soon be well; at night, however, when we got to the house, she was well. Now this case, which had more the character of bots than any I have ever seen, proved upon inquiry to have been caused by leaving the bars down when the work horses were carried out; the brood mares of the plantation went in and eat what corn was left in the trough. Without knowing the cause this would have been pronounced a case of bots and treated as such.

I will notice a few more observations of Mr. Ellis before I close; "I should think this instinct of nature would have led them up the gullet, and thus to escape at the mouth like worms in children." Now Mr. Ellis gives several instances, and almost every person who has made observations on bots can give more, that at particular times they will not perforate the bowels even after the death of the horse. This is at that period of life when they are about to be discharged by a course of nature, then it is they endeavor to make their escape by crawling out when the horse dies; and perhaps often while living to find the gullet filled with them is not very uncommon. Mr. Ellis has given an instance of it; and has he not observed also that whenever they are found endeavoring to make their escape this way, however full the stomach may be of them, none will have eat or gnawed the stomach?

Says Mr. Ellis, "How they in the short space of time given by the doctor should perforate the maw in the manner described, I must leave for an enlightened public to judge. For my own part, knowing the great muscular strength of the maw, I have my doubts whether a common dog could have gnawed it through in the same time." Here Mr. Ellis doubtless intends to be severe; his doubting my honesty will not justify me in doubting his. I feel certain, however, of this much, that my old dog Jollins could make a hole through any horses maw I have ever seen, before Mr. Ellis could say Jack Robinson. Mr. Ellis thinks my treatment singular, but correct if pursued in moderation. "First, to give an ounce of laudanum, bleeding to such an extreme I should think dangerous. This, with a double quantity of oil, I should think would render the remedy worse than the disease." These observations coming from a practical man like Mr. Ellis, are unfortunate. I wish he had not made them, for they may deter some from using them and many horses may die because they were not; the disease is violent and quickly fatal; the treatment must be bold and energetic; with respect to free bleeding, I refer Mr. Ellis to the American Farmer; a writer there who appears really to be a practical man, advocates it better than I can; of the laudanum Mr. Ellis may be assured, if he will take my word for it, that there is no risk in giving one ounce and in a very violent case he may give two ounces. Mr. Ellis, if the case is very alarming, and you give two ounces with oil, you will thank me; there will be no danger from it, and the horse will be apt to be saved—and with respect to the oil, I had more regard to economy than danger when I limited the quantity to two bottles; I do assure Mr. Ellis he may give four bottles without fear; I have given four bottles with success; I have always

thought the more I gave the better; it is most easily poured down the nostril. To pronounce my treatment worse than the disease is a grave charge; try it first, Mr. Ellis, and then decide. Plunging a knife into the flank, Mr. Ellis calls an exploit; he has heard of horses dying from it but never heard of one recovering; while he speaks of performing the same operation on cattle, and putting them to work immediately after the operation; truly, Mr. Ellis, if mine is an exploit, you prevent me from boasting, for yours is much greater. If however, Mr. Ellis, you doubt my assertion let me know, and I will have it proven. I must not trouble the readers of the Farmer with certificates, but I should be happy to correspond with you privately.

ROBERT R. HARDEN.

A LAND "FLOWING WITH MILK AND HONEY."

Clearfieldtown, Penn. Nov. 1.

As regards the truth of the following statement, we have testimony from the most unquestionable authority.

Week before last, a gentleman living in Bradford township, Clearfield county, proceeded to cut down a large pine tree, in which he had previously discovered a number of BEES. All things in readiness, and this lord of the forest laid prostrate before his assailants—without, however, receiving much other injury, than the loss of his understanding—they proceeded to investigate his physiognomy more closely—applying the axe to his trunk in several places and nothing but honey! honey! honey! meeting their astonished observation, and finding their vessels incompetent to hold the "flesh and blood" of which he abounded, a new supply was immediately furnished;—and now determined on finding the alpha and omega of his treasure, numerous incisions were again made, when a space of about twenty-five feet was found interlarded with combs, in many places not more than one inch of a shell remaining. Judgmatically he was now split open, and the combs taken out and secured. The most singular fact is, that the upper combs were perfectly black with age, and the whole exhibiting a group of strangely diversified colors, and possessing as many different tastes. The next morning they proceeded to ascertain the quantity of honey, which they found to be of the liquid which had left the combs eleven gallons, and the remaining combs to weigh better than two hundred pounds! The tree was two and a half feet in diameter, and no doubt was in possession of the bees twenty or thirty years ago.

[Banner.]

(From the Southern Planter and Family Lyceum.)

TOMATOES PRESERVE.

Mr. Editor:—The tomato is favorably mentioned in your last number: it is a valuable vegetable. But I do not recollect, that in the variety of uses to which it has been applied, your paper assigns it any place among the different species of preserves. As we are deprived this season of that pride of the fruit of Georgia, the peach, it may be of service to housekeepers to know that the tomato forms a most admirable substitute for the peach, as a preserve. The flavor is almost precisely the same—it looks as well, and is altogether an excellent article for the tea table.

Directions.—Take good ripe tomatoes—peel them and preserve them with good brown or lard sugar. If not peeled they burst, and do not retain the consistency so much desired by housekeepers, though they are very good without peeling. I give you this, at this time, that the industry of the fair hands about your flourishing town, may profit by it, before Jack Frost shall cut off their hopes from this new source of table ornament and luxury. Yours, &c.

SWEET TOOTH.

P. S. Those who live in towns will at all times find this a cheap substitute for peaches as the latter cost something. Remember "a penny saved is a penny gained."

MISCELLANEOUS.

(From the Genesee Farmer.)

PLANTS.

If plants were to perform no other act than that of pumping the nutritive principles they contain out of the earth; if they did not possess the faculty of digesting, assimilating them, and forming different products, according to their nature, and the diversity of their organs;—it would follow as a consequence, that we ought to find in the earth all those principles which analysis exhibits to us in vegetables.—*Chaplain.*

Mr. Editor.—The Rev. Samuel Deane, D. D. Vice President of Bowdoin College and Fellow of the American Academy of Arts and Sciences, has given us in his *New England Farmer or Geographical Dictionary*, a long article concerning the food of plants. Truly, I apprehend that Mr. Deane understood theology better than agriculture. The ignorance displayed on this subject, would seem inexcusable in one who sets up for a teacher. He tells us that plants can only receive their food in a liquid state; that as most plants contain *air, water, salts and oils*, their food must necessarily be of the same nature. I would ask Mr. Deane, how it comes the cicuta contains a poisonous juice, while the cabbage, growing beside it, is perfectly innocent? Why a crab apple stock, when grafted, will produce the delicious Spitzenberg? Why will the plum produce the peach? Why the miseloe grow on the oak, twenty feet or more from the earth? Questions of a similar nature might be asked to infinity; the natural inference is, that the food of plants is principally drawn from the atmosphere—and that this food is differently modified by the digestive organs of the plant. We may analyze the earth and air as much as we please, and find nothing in them either of air, water, salts or oil, and nothing else partaking of the nature of the cicuta or cabbage.

Yours, &c.

R. M. W.

Sept. 18, 1832.

(R. M. W. surely will see upon reflection that he is as deep in error as Mr. Deane. The argument he uses to prove that plants do not derive their nourishment from the earth, and that they do derive it from the atmosphere, can be reversed. That the cicuta and the cabbage grow in the same soil, and yet one be poisonous and the other wholesome, is surely no more an argument that they derive their nourishment from the atmosphere than from the earth; because they also both live in the same atmosphere. We apprehend that the truth in this matter is, like many other truths, so simple that it escapes observation—(an old friend of ours used to hide whatever he wished to conceal by putting it in a place where such things would not be expected to be found.) Do animals derive their nourishment from what they eat or what they breathe? As to the wholesomeness or poisonousness of vegetables, these qualities do not depend upon what the plants feed on, but upon the peculiar nature of each individual given to it at the commencement. Each seed contains not only the germ of the future plant, but the essential principle of its quality, poisonous or wholesome, and, like the form of the plant, the qualities are merely expanded by growth. But it will be asked, whence is the additional quantity of this poisonous or wholesome principle derived, if not from the soil or the atmosphere? We answer by asking another question—whence is the additional quantity of yeast or leaven derived, when a gill of the former will turn a gallon of *batter* into yeast just as strong as itself, and four ounces of leaven put into ten pounds of flour, will “leaven the whole lump?” The truth seems to be, that plants and animals derive their gross nourishment, or the matter that increases the body, from the earth, directly and indirectly—plants feeding upon the earth, and animals upon plants and animal food; and both depending upon the atmosphere for an ethereal principle, which is the food of life.—*Ed. Am. Farmer.*]

METEOROLOGICAL JOURNAL.

For 10th mo. (October,) 1832, kept at Clermont Academy, near Philadelphia, by S. S. GRISCOM.

Day of the month.	Therm. at sunrise.	Clouds at sunrise.	Winds at sunrise.	Remarks, a.m. and Therm. at m.	Max. of Therm.	Clouds at 3, p.m.	Winds at 3, p.m.	Remarks in afternoon and at 9, p.m.
1 52	MCS.	NW5		r. 60 mcs: NW5 at m.	66 MS:	NW4	51 c, NW1	at 9 p.m.
2 46	MC, MS,	NW2		61 ms; SW3 at m.	63 MS,	NW2	44 0. W1	
3 41	MS,	SW2		64 ms: SW5 c, at m.	65 CS; MS;	SW5	r, 62 mcs. NW2	do
4 46	0.	W1		very fine 67 c, ms, SW5 at m.	67 C,	SW5	52 0 SW1	do
5 48	MC, CS,	W1		69 c, mc; SW3 at m.	71 C; CS,	SW2	54 c, W1	do
6 47	C;	0			72 C;	SE1	52 c, NE1	do
7 51	s. dense	NE2		r, 60 str. dense & wet SE2 r.	62 CMS.	E2	r, 57 mcs: NE3	do
8 56	MCS.	NE5		60 mcs. NE4 r, at m.	59 CMS.	NE4	r, 56 mcs. NE2	do
9 58	MCS.	NE4		r, 64 mcs. SE4 at m.	63 CMS.	SE4	60 mcs. SE2 r,	do
10 62	MS.	SE4		r; early 79 mcs. SW5 at m.	78 MS;	SW6	67 c; CS: W2	do
11 69	MCS.	SW6		r. 67 cs: m, 0 at m.	65 C; CS;	NW5	52 cs, NW2	do
12 49	CS,	NW1		65 m, NW2 at m.	65 C;	NW1	55 cs: NW1	do
13 53	CS: fog	0		72 cs. W1 at m.	71 CS.	W1	r, 59 r; SW2	do
14 56	CS.	NW4			60 CS:	NW4	48 0. NW2	do
15 38	0.	NW3		white frost 50 0. NW3 at m.	51 0.	NW0	37 0 0	do
16 33	0. fog;			ice do 55 0 SW3 at m.	56 C,	SW3	44 c, SW3	do
17 48	fog;	SW1		62 c, ms, SW4 at m.	64 C;	SW4	52 c; SW3	do
18 55	fog;	SW2		69 cs, SW4 at m.	71 CS,	SW4		
19 60	CS, MS;	SW1		70 ms; NE3 at 9 73 mcs: NE4	67 CMS.	NE6	59 cms. r, NE4	do
20 59	fog;	SW3		72 m, SW6 at m.	75 MS,	SW6	64 0 SW2	do
21 61	C; CS;	NE4		69 c; NE4 at m.	70 C; CS;	NE4	55 mcs. NE6	do
22 50	MCS.	NE7		r: 51 cms. r. NE8 at m.	59 CMS.	NE7	r, 52 mcs NE2 r,	do
23 49	MCS.	NW2			61 MCS.	NW4	47 ms, NW3	do
24 43	CS; C,	NE5		frost 51 cs. NNE4 at m.	54 CS.	NNE2	45 cs, NNE2	do
25 43	CS:	NNW5		frost 56 thin c. NNE7 at m.	59 CS.	NNE7	45 cs: NNE7	do
26 32	0.	NNE6		ice 40 0. NE5 at m.	42 0.	NE4	32 0 NE2	do
27 38	MS.	SW2		frost	53 CS:	SW4	45 cs. SW1	do
28 40	CMS;	NNW6		frost	45 0.	NNW6	33 0. NNW1	do
29 30	0.	NW3		ice 46 0. NNW4 at m.	51 0.	NNW3	42 0 0	do
30 36	C,	NW2		ice w. frost 56 smoky at m.	55 C,	0.	smoky—40 c; NW2	do
31 36	C; MC;	SW3		icesmoky 56 smoky SW2 at m.	58 CS,	SW2	smoky—43 hazy W1	do

SUMMARY.

Mean at sunrise, 47.9.

Do. at midday, 61.58.

Mean heat of month 54.74.

Minimum of therm. 30 on 29th.

Maximum of therm. 79 on 10th.

Coldest day 37° on 26th.

Warmest day 70 on 10th.

Range of therm. for month 49°.

Rain on 10 days.

Cloudy 13 days.

Fair 18 days.

Wind west of meridian 22 days.

Wind east of do. 9 days.

Thermometer above 76° on 1 day.

Thermometer below 55° on 22 days.

Decrease of temperature from last month 10.09°.

This month was .97° colder than the same month last year.

Frost on 5 mornings.

Ice on 5 mornings.

All the tender garden plants were killed on the 16th.

No electrical phenomena or aurora observed.

MEMORANDA.

1st. Heavy rain in the morning from N. W.

3d. In evening heavy nimbus came over from the west with very heavy rain for two hours, without thunder or lightning, and not much wind.

6th. Several blue jays were squalling about; they were the first noticed here, though they are frequently seen in the woods within a mile or two. Of late we scarcely see a bird of any description here. The senseless “sportsmen” from the city wage an exterminating war against all, even the little sparrow and the cheerful wren.

10th. Glow worms very numerous, and insects chirping merrily in the evening—67°. In the night the wind changed towards the north and blew a fresh gale.

11th. A succession of heavy showers in the morning, clear in evening, and the reflection at sunset very bright.

12th. The sassafras, tulip poplar, hickory, ash, &c. a deep orange color; the maple red; the Athenian poplar, althæa, &c. have lost most of their leaves.

13th. Very foggy.

14th. The reflection at sunset remarkably fine, as if the whole western horizon was on fire.

15th. First white frost here; the day clear, without a cloud; the sky of beautiful azure and nearly calm, with a slight breeze at times from the west; another glorious sunset, not a cloud on the sky, and the whole western horizon in a glow of fire and burnished gold.

16th. The first ice, as thick as window glass—very white frost and fog; another fine sunset; do. on 17th.

18th. A little smoky; in evening like Indian summer; wind S. W. 3; clouds MS; from N. W.

19th. A little rain in the evening from N. E. with every appearance of a heavy storm.

20th. In morning broken stratus from S. W. 3—the noise from the city unusually distinct and loud.

22d. A very heavy storm from N. E. with R. and a strong gale for 24 hours.

24th. Reflection on CS. at sunset very fine.

26th. Fine clear morning, with plenty of ice.

29th. Ground frozen; thermometer 26 at 4 A. M. near Frankford; our crop of blood beets and turnips is very fine. The forests seem to be losing their foliage rather early; grass and hardy vegetables not yet much injured.

Prices Current in New York, November 10.

Beeswax, yellow 18 a 20. Cotton, New Orleans 104 a 13; Upland, 104 a 12; Alabama, 104 a 13 — Cotton Bagging, Hemp, y 13 a 21; Flax 13 a 14; Flax, American, 7 a 8 — Flaxseed, 7 bushels clean — rough, 12 a —; Flour, N. York, bbl. 6.37 a 6.44; — Canal, 6.31 a 7.00; Balt. 6.12 a 6.75; — 1 Hhd. city mills, 6.87 a 7.00; country, — a 6.37; Alexandria, 6.62 a 6.75; Fredericksburg — a; Petersen, new, 6.37 a 6.50; — Rye Flour, 4.75 a —; Indian Meal, per bbl. 3.75 a 4.00 per Hhd. 12.00 a —; Grain, Wheat, North, 1.25 a —; Vir; 1.27 a 1.34; Rye, North, 92 a —; Corn, Vel. Nor. 92 a 93; Barley, .95 a —; Oats, Sth. and North, .50 a .62; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 1.00 a 3.00; Provisions, Beef, mess 8.25 a 8.50; prime 5.25 a 5.37; cargo — a —; Lard, 83 a 9 — Pork, mess, bbl. 12.50 a 13.00; prime 10.75 a 11.50.

GENERAL

Agricultural and Horticultural Establishment: COMPRISING,

A Seed and Implement Store, a General Agricultural Agency, and the Office of the AMERICAN FARMER, at No. 16 South Calvert street, Baltimore: in connexion with a Stock and Experimental Farm, Garden and Nursery in the vicinity.

The subscriber, proprietor of the above named establishment, respectfully informs Farmers, Gardeners, and the public generally, and dealers particularly, that he is prepared to execute orders in any or all of his departments; and he solicits those who feel interest in his plan to furnish him with their addresses (free of expense to him,) on receipt of which he will forward to them an extra number of his paper, the American Farmer, containing a full description of his establishment, and a priced Catalogue of Seeds, &c. for sale. In every village in the Union a quantity large or small of CHOICE GARDEN SEEDS would find a ready and profitable sale, and the advertiser has prepared his Seed Store specially with a view to supply dealers on very liberal terms, for cash or acceptance in Baltimore, with first rate seeds, papered and labelled, put up in boxes expressly for country dealers. He ventures to affirm, that for those who desire any of the articles comprised in his extensive establishment, there is not in the United States a more eligible place than this to apply for them, as it is a repository in which are concentrated, or may be procured on short notice, from all parts of our country (and not a few are from remote parts of the earth) a vast variety, many of which are very rare and valuable, of Seeds, Plants, Trees, Koots, Vines, Domestic Animals, Books, Implements, and last, though not least, a constant fund of timely and important information on almost every subject interesting to a cultivator of the soil. This last is imparted weekly to subscribers, for a small annual contribution, through the columns of the American Farmer, in which are indicated also, by advertisement and otherwise, the supplies of choice commodities, both animal and vegetable, as they are received at the establishment. The subscriber is agent also for the principal Nurseries and Gardens in the Union; and for several celebrated breeders of fine cattle, sheep and other domestic animals; — also for the United Society of Shakers; at New Lebanon, N. Y. a full assortment of whose celebrated Garden Seeds, fresh and genuine, may at all times be had from him, wholesale and retail, on the best terms.

Address I. IRVINE HITCHCOCK,
Baltimore, Md.

"SHAKER GARDEN SEEDS."

The Subscriber has been appointed by the United Society of Shakers, at New Lebanon, N. Y. agent for the sale of their celebrated GARDEN SEEDS, which may be obtained from him hereafter, by wholesale or retail. He has this day received direct from the Society, 14 boxes, each comprising an assortment, more or less extensive according to its size. Of these a part are small "Family boxes," containing a quantity suitable for a common garden, with a list of contents annexed. The character of these seeds is too well established to need recommendation. Apply at the American Farmer Office and Seed Store, No. 16, South Calvert-street.

I. I. HITCHCOCK.

Nor 16.

BUFFALO BERRY TREE, OR SHEPHERDIA.

A small number of these splendid trees, natives of the Rocky Mountains, and equally desirable for their fruit, and their beauty, will be received in a few days, and for sale at the American Farmer Office and Seed Store, No. 16, South Calvert street. Price \$1 each. Those who want them would better make early application, as the demand is great and the supply scanty.

I. I. HITCHCOCK.

REMOVAL.

SAMUEL FEAST, NURSERY MAN AND FLORIST, has removed the stock in his line, from his late residence on the Frederick road to Chatsworth, on the Franklin road, adjoining the dwelling of Mr. Thomas Edmondson. He returns thanks to his patrons and the public generally for their support, and hopes from his attention to business, he will still merit their attention.

He has for sale at present, a large collection of FRUIT and ORNAMENTAL TREES, SHRUBBERY, FLOWER and BULBOUS ROOTS, GREEN-HOUSE PLANTS, Garden and China ROSES, many new varieties. — Raspberries, Strawberries, Asparagus Koots, double Dahlias, Peonies, &c.

The CHINA ROSES are in fine order — they consist of yellow, white, purple, scarlet, kurtsia and common tea; Myrophylis, do, Striata, Noisettes of some, Neapalmis, Bourbon, Boursalindia, red and white; Multiflora, red, white and purple; new white China, and Master Burk, with various other sorts.

THE PEACH TREES consist of 50 sorts, all of choice fruit; English Elms for planting in the street, of large size, with various other articles too numerous to mention, which he offers for sale on accommodating terms.

Nor. 16. — 21.

PATENT CYLINDRICAL STRAW CUTTER.

The subscriber would inform the public, that in the year of 1816, he commenced making improvements in Straw Cutting Machines, and paid his undivided attention to that one object for five years; that in 1821 he obtained a patent from the United States for his IMPROVED CYLINDRICAL STRAW CUTTER, and has been manufacturing them ever since; during which time he has added some valuable improvements to it, and turned out nearly five hundred machines which, have given general, and he believes universal satisfaction to his customers, and that he still keeps a full supply of them on hand of various sizes and prices, viz.

\$25.00, 27.00, 40.00, 45.00, and \$55.00.

Extra knives, 3.50, 3.50, 5, 5, 6, and 10. The two first named are too small for farming purposes, but suitable for a person that keeps but two or three horses or cows. These machines are adapted to the cutting of all kinds of forage, straight or tangled, coarse or fine, corn stalks, &c. and are simple and durable in their construction.

Determined as he is to be unremitting in his exertions, he hopes to sustain the high reputation, he has gained for these machines, and to afford them as low as any one can. He also keeps constantly on hand, a general assortment of IMPROVED PLOUGHS, and every other implement in the Agricultural line, which are manufactured with care, and of good materials, and will be afforded on pleasing terms.

J. S. EASTMAN,

Nor. 9. Pratt, between Hanover and Charles streets

AGRICULTURAL IMPLEMENTS, &c.

SINCLAIR & MOORE, Pratt street wharf, have on hand a general assortment of articles in the agricultural line. It is their determination in order to devote more of their time to the improvement and careful manufacture of implements, and the production of the best articles in their line, to confine their sales to cash, or for acceptances in town; with a few exceptions where arrangements equally convenient are made for selling by wholesale.

FRUIT TREES, &c. — The season for transplanting fruit trees being nearly at hand, we invite those who intend to plant to send in their orders early, which will give the best opportunity of filling them to satisfaction. Trees will be carefully packed so as to carry safely, for which reasonable charges will be made.

Cast steel axes by the dozen or single one; steel Hay and Manure forks, together with a variety of other implements and tools, Wove wire, Screens, &c.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET. — There is not much change in any of the staple articles. Flour remains the same as at our last, the wagon price of Howard street being 36 1/2. Wood continues high, and beef has fallen considerably and is dull of sale at our quotations.

TOBACCO. — Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00. — Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00. — Fine yellow, 18.00 a 25.00. — Virginia, 4.00 a —. — Rappahannock, 3.00 a 4.00. — Kentucky, 3.50 a 8.00. The inspections of the week comprise 239 hds. Md.; and 8 hds. Ohio. — total 247 hds.

FLOUR — best white wheat family, \$6.75 a 7.25; super Howard-street, 6.25 a 6.75; city mills, 6.25 a 6.75; city mills extra 6.12 a 6.25; — Corn Meal bbl. 1.50; — GRAIN, best wheat flour, 1.12 a 1.20; white do 1.20 a 1.25; — CORN, white, 83 a 84, yellow 83 a 84; RYE, 70 a 71 — OATS, 35 a 38 — BEANS, 70 a 80 — PEAS, 75 a 70 — CLOVER-SEED — a — — TIMOTHY, — a — — ORCHARD GRASS 2.00 a 2.25; — Tall Meadow Oak Grass 2.00 a 2.50; — Herd's, 75 a 87 1/2; Lucerne — a 3 1/2 lb. — BARLEY, — FLAXSEED 1.50 a 1.62; COTTON, Va. 3 1/2 lb. — Lou. 9 a 13 — Alab. 6 a 12 — Tenn. 3 a 11; N. Car. 8 a 12 — Upland 9 a 12 1/2; WHISKY, hds. 1st p. 31 a —; in bbls. 32 1/2 a 33; — Wool, Washed, Prime or Saxony Fleeces 45 a 50; American Full Blood, 38 a 42; three quarters do. 33 a 38; half do. 30 a 33; quarter do. 28 a 30; common 25 a 28. Unwashed, Prime or Saxony Fleeces, 25 a 30; American Full Blood, 22 a 25; three quarters do. 20 a 22; half do. 18 a 20; quarter do. 16 a 18; common, 16 a 18 Hemp, Russian, 20 a 22; Country, dew-rotted, — a 7c. lb. water-rotted, 7a 8c. — Feathers, 36 a 38; — Plaster Paris, per ton, — a 4.37 1/2, ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 75.00 a 85.00. — Prime Beef on the hoof, 4.00 a 4.50 — Oak wood, 4.00 a 4.50; Hickory, 4.50 a 5.00; Pine, 2.25.

CONTENTS OF THIS NUMBER.

Editorial; Herbemont's American Wine — Prospects of the Cotton Crop of Georgia — Alabama Cotton Crop — The First Snow — The Fly — Varieties of the Dahlia cultivated at the Linnaean Botanical Garden — Teak Tree — Sale of Cattle — Foreign Markets — Marl; to what Soils applied as Manure; Earths in which it is found — Culture of Barley and Peas — Estimate of the Expense of Cultivating Corn and Potatoes in Western New York — On the Establishment of a Horticultural Society, concluded — Mandrake or May Apple; its Culture and Use — Vegetables — Letter from Dr. Robert R. Harden on the New Theory of Bots in Horses, in reply to Peter Ellis in No. 49, vol. xiii. — Remarkably large Beehive found in the trunk of a Pine Tree — Directions to make Tomatoes Preserve — Plants; how supplied with Food — Samuel S. Grison's Meteorological Journal for October — Prices Current of Country Produce in the New York and Baltimore Markets — Advertisements.

Special Agents for the American Farmer.

The following persons are authorised to act as Agents for the American Farmer in their several places of residence:

Boston, John B. Russell, N. E. Farmer Office.
New-York, J. H. Gourlie, at the Post Office.
Philadelphia, D. & C. Landreth, 85 Chestnut street.
B. E. Freyreth, Myrtle Court.
Washington, D. C. J. Thompson.
Coale & Co.
Petersburg, Va. Thomas Coleman.
Raleigh, N. C. Joseph Gates & Son.
Canden, S. C. P. Thornton, Post Master.
New Orleans, Wm. McKean.
Nashville, Tenn. Eichenbaum & Norvell.
Natchez, Miss. Frederick Staunton.
Fort Gibson, Miss. Passmore Hoopes.
Salem, N. J. H. J. Ewell.
General Agent for the State of Maryland, T. D. Brennan.

Direction of Letters. — Address all business letters concerning the Farmer, the store, or the agency, to the proprietor, J. I. Irvine Hitchcock, Baltimore, Md.

Printed by D. T. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, NOVEMBER 23, 1832.

A CARD.—The publisher of the American Farmer presents his compliments to those editors with whom he exchanges, especially those who publish the weekly "Contents," and respectfully requests that they give his "general" advertisement, contained in this number, two or three insertions, instead of the "Contents." Should any editor deem this "asking too much," the publisher will cheerfully reciprocate the favor by sending them a reasonable quantity of seeds, plants, trees, or roots,—always excepting the "root of evil."

NEW CHINESE MULBERRY, *morus multicaulis*.—The excellent qualities of this species of mulberry for silkworms, are every day receiving new illustrations. A friend in Virginia writes to us that he had a leaf from one of his trees that measured 15 inches in length and 13 in width; and that 36 leaves, medium size, after exposure one day to the hot sun in September to evaporate their moisture, weighed twelve ounces.

BUFFALO BERRY TREES, *shepherdia*.—A gentleman in Boston, who has the original tree of this excellent and elegant new fruit and ornamental tree, in a letter to us says—"You will find a description of the *shepherdia* in the American Farmer, from Jonathan Winship. Next season we will send you a large branch of the tree in fruit. Our tree is 18 feet high, and when in fruit truly magnificent; gratifying to both the eye and the palate. Fancy to yourself the red currant growing in compact spikes, about the diameter of a small ear of corn, and much more closely set than kernels of corn, on every large and even the smallest offsets, and you may have some idea of the beauty and elegance of this tree."

WHEAT TURNED INTO CHEAT—*New proof*.—The following article, which we copy from the Genesee Farmer, cannot fail to attract the attention of both parties to this vexed question. We would particularly call to it the attention of our respected correspondent, Gov. Ogden, who adduces a similar fact in the present number, and suggest whether it may not be deemed probable, that some one may have inserted the grains of chess into the head of wheat, as was proved to have been done in the case recited by the Genesee Farmer, and thus have deceived his respectable friend? We can scarcely conceive the object of the deception thus attempted to be practised. Had the Editor of the Genesee Farmer given it only the usual attention, the fact would have gone forth, as evidence irrefutable of the correctness of one of the most unsound, unscientific, and, we hope to be excused for adding, the most unnatural, theories that ever occupied the attention of man since the age of darkness:—

"We hope our readers will excuse us for coming before them at this time under this head, when it would appear that all the arguments for and against the doctrine of transmutation had been exhausted. Our object is not to appear as theorists, but merely to state simple facts, which we are bound to do in justice to all parties concerned. We have lately been presented with a head of wheat, which was brought from Michigan by a Mr. Wadsworth, and although it was left in our absence, the gentleman left word that if it was not sufficient to convince us of the doctrine of transmutation, or that wheat did actually turn to chess, he would send us more, as a number of similar heads had been found in the same field. We examined the specimen, which had all the appearance of a healthy head of wheat, with a small branch of chess which had grown out from among the kernels of

wheat, and appeared to be attached to the same stalk. From the fly specks upon the specimen, we inferred that it had been kept for exhibition a long time, and as we by simply looking at it with the naked eye could not discover but what the chess belonged to the same stalk with the wheat, we concluded that hundreds must have been convinced of the doctrine of transmutation by this alone. Our friend L. being present when the specimen was brought forth, claimed the victory in favor of his position, viz: "that wheat will turn to chess." We commenced a minute examination with magnifying glasses, by carefully removing the glumes near the place where the branch of chess appeared to spring from. From the respectability of the gentleman who presented this singular specimen, we could not for an instant suppose that he knowingly had practised any imposition upon us; we therefore proceeded with great care, until we discovered that the stem of the panicle of chess, which was not larger than a horsehair, had by some means been pressed between the main stalk of the head and that of the glume, which being pressed close together, retained the chess in its place, while the but or projecting part of the stem of the chess was bent up in the direction of the beards of the wheat, from which it could not be readily distinguished. We have preserved the head of wheat with the chess for the inspection of the gentleman who brought it, should he chance to be in this village, as he was undoubtedly convinced, from the superficial examination which he made, that the specimen presented was sufficient to settle the long agitated point with regard to this troublesome weed. We believe, in all cases, if farmers will examine facts carefully, instead of receiving traditional fables, they will be able to judge in most cases with more accuracy."

INFLUENCE OF HORTICULTURE.—In all parts of our country, where horticultural societies have been formed, and a taste for gardening, as a necessary consequence, improved, new capabilities both of soil and climate, have been suddenly developed; and fruits and other horticultural productions, believed to be exclusively the growth of more genial climes, have been reared in abundance, and great perfection.

We would suggest to gentlemen of taste, and enterprise, that it is within their influence, to promote the formation of county horticultural societies; and would submit to them, whether by so doing, they might not greatly promote *practical horticulture*, and consequently the health, morals, and comforts of the community.—*Northern Farmer*.

SEEDS OF FRUIT TREES, FOREST TREES, &c.

Sow the seeds of cherries, peaches, and some other fruits, which are of a perishable nature as soon after the fruit is ripe as possible. If such seeds are kept till the next spring, they become dried through, and the vegetative principle is destroyed. Evelyn, an English writer of celebrity, says that sowing acorns, beech mast, ash keys, &c. in the autumn, when those seeds fall spontaneously from the trees, appears by much the most *natural method*; but the destruction made by the field mouse, both at the time of sowing and during the winter, has induced many gentlemen to prefer spring sowing to the autumnal one. When spring sowing is determined on, the acorns and other seeds must be carefully preserved during the winter; and in forming the magazines, care must be taken to keep the different sorts apart from each other.

PRESERVING APPLES.—Dr. T. Cooper in the *Domestic Encyclopedia*, says that apples may be preserved by putting a layer of apples, and a layer of dried fern, [brakes] alternately in a basket or box (the latter is considered best, as it admits less air) and cover them closely. The advantage of fern in preference to straw, is, that it does not impart a musty taste.

(From the United States Telegraph.)

NATURAL WONDERS.

It is very surprising, that two of the greatest natural curiosities in the world are within the United States, and yet scarcely known to the best informed of geographers and naturalists. The one is a beautiful water-fall in Franklin county, Georgia; the other a stupendous precipice in Pendleton district, South Carolina; they are both faintly mentioned in the late edition of Morse's Geography; but not as they merit. The Tuccoa Falls are much higher than the falls of Niagara. The column of water is propelled beautifully over a perpendicular rock, and when the stream is full it passes down without being broken. All the prismatic effect, seen at Niagara illustrates the spray of Tuccoa. The table mountain in Pendleton district, South Carolina, is an awful precipice of 900 feet. Many persons reside within five, seven, or ten miles of this grand spectacle who have never had curiosity or taste enough to visit it. It is now however occasionally visited by curious travellers, and sometimes men of science. Very few persons who have once cast a glimpse in the almost boundless abyss, can again exercise sufficient fortitude to approach the margin of the chasm. Almost every one, in looking over, almost involuntary falls to the ground, senseless, nerveless and helpless; and would inevitably be precipitated headlong, and dashed to atoms, were it not for measures of caution and security, that have always been deemed indispensable to a safe indulgence of the curiosity of the visitor or spectator. Every one on proceeding to the spot whence it is usual to gaze over the wonderful deep, has in his imagination, a limitation, graduated by a reference to instances with which his eye has been familiar. But in a moment, eternity as it were, is presented to his astonished senses; and he is instantly overwhelmed. His system is no longer subject to his volition or his reason, and he falls like a mass of pure matter. He then revives, and in a wild delirium surveys a scene, which for a while he is unable to define by description or imitation.

How strange it is the Tuccoa Fall and Table Mountain, are not more familiar to Americans! Either of them would distinguish an empire or a state in Europe.

FOREIGN MARKETS.

LIVERPOOL, Oct. 13.

Cotton.—The demand for all descriptions of cotton has again been upon a limited scale, having been confined chiefly to the immediate wants of the trade. Prices have, however, been fully supported; indeed, the low qualities of American cotton have regained the slight decline noticed in our last. Brazils remain in limited demand, and it is more freely met by the holders. We make no change in our quotations. There was rather more business done yesterday, and the market closed very firmly. The sales of the week, including 809 bales of American taken on speculation, amount to 10,580 bags. Import, 12,410 bags. To-day there has been a fair demand for cotton wool, which is held at full market prices. 3000 bales are the estimated sales, and comprise 200 Brazils and Egyptians, the former in Pernams at 9½d to 9½d; Bahias at 8d; and Maranhams at 9d; and the latter at 8 7-8d. Upwards of 2,500 in American descriptions from 6½d to 8d.

LONDON, Oct. 15.

Corn exchange.—We have a good supply of wheat from Kent and Essex this morning, but very little from the Suffolk coast.—The sales were brisk at an advance of from 2s to 3s 6d per quarter arising from a demand for the northern counties, which with what was taken off by the town millers cleared the market of the finest new wheat; but there was not the same briskness in old, although higher prices by 2s per quarter were obtained for the finest qualities.

AGRICULTURE.

CHEAT OR CHES.

MR. SMITH: Waddington, N. Y. Nov. 3, 1832.

Dear Sir,—The question as to the origin of cheat or chess has occupied my mind for many years. I first embraced the opinion it sprang from imperfect wheat—afterwards changed my notion from the evidence adduced from the most respectable authority of practical and scientific farmers. Even now, with a full recollection of all you have published, I feel disposed to return to my first opinion, not because others have confidently asserted I am right, but because I am at a loss to account in any other way for the two following facts.

The first comes from a most respectable and intelligent person, whom I have known intimately more than twenty years. His story is this: He was reaping a field of wheat, and observed at the extremity of a wheat ear, two perfect and distinct grains of chess, growing out of, and firmly adhering to, the head of the ear. He showed them at the time to his neighbor then reaping with him, (whom I also knew) and both agreed they were distinct grains of chess growing from the top of the wheat ear. Below these, the grains of wheat were perfect. The land upon which the crop grew was new land; that is, it was chopped down and burnt, and Indian corn planted the year before, afterwards logged off and seeded to wheat. I can procure an affidavit, if necessary, to this statement, and of undoubted credit.

The second fact I have heard I have no doubt in a few days I could substantiate in the same manner.

A bed for taking wild pigeons in a net was made, and baited with wheat. It was used more or less during the autumn, and literally, at the close of the pigeon flight, covered with fresh and bruised grains of wheat. It remained undisturbed during the next year, and its produce was entirely chess.

These two instances shew a strong family connexion between the two plants, and afford plausible ground at least for the opinion, that they are not so perfectly different and distinct as some of your friends imagine.

In haste, I subscribe myself, your obt. serv't.

Gouv. OGDEN.

[REMARK.—The Editor of the Farmer hopes that his respected correspondent will not consider him obstinately bent on sustaining a favorite opinion, but rather as desirous of eliciting truth by the following suggestions. May not the supposed grains of chess found in the head of wheat have been the production of unfecundated germs? Every grain of wheat is produced by the concurrent action of three male and two female organs; any accident that should have deprived the germ of either of these organs when first expanded, might have produced a grain closely resembling chess, but not possessed of the principle of vegetation. If the grains had been planted and they had grown and produced chess, then indeed the evidence would have been conclusive; but in the absence of such a test, we must deem it far from being so.—As to the second case, it amounts to no more than has been often stated—where wheat was sown chess was produced—and is to be explained only by supposing that there was chess amongst the wheat, that the wheat was picked up by birds, &c. and the chess left, neither bird nor beast being fond of chess when they can get wheat.—Ed. Am. Farmer.]

(From the Genesee Farmer.)

CHEAT AND CHES.

Greatfield, 10th mo. 16, 1832.

It has afforded me much satisfaction to discover, in different parts of the country, some farmers who exercise their reason, uninfluenced by popular prejudice, and who have wisely come to the conclusion that

chess is only a weed that may be exterminated like other weeds. In the course of conversation, I lately received an account of the farming operations of Joel W. Bacon, Esq. of Waterloo, which I considered so pertinent to the subject now under discussion, that I prepared and transmitted to him a statement, requesting his corrections, and asking permission to use his name in the Genesee Farmer. His prompt attention to my request, was gratifying; and by laying some extracts of his letter, which I subjoin to that statement, before the public, I shall doubtless render it an acceptable service.

The Statement.

When he came into the possession of his farm about seven years ago, he purchased the crop which was then on the ground, and which proved so foul that from 350 bushels of wheat, he cleaned out 80 bushels of tailings, consisting principally of chess; but notwithstanding the pains that were taken, and which so greatly reduced the quantity, it was scarcely merchantable; and a deduction of two pounds on the bushel was exacted on account of its impurities. To many, this beginning would have been discouraging; but not believing in the doctrine of transmutation, he determined to extirpate this weed from his fields. In preparing his fallow of the same season, he ploughed it five times; and after each ploughing except the last, had it well harrowed. He prepared his seed wheat from the crop then on hand, by passing it repeatedly through an excellent fanning mill; and then by throwing it in small quantities at a time, to the further end of his barn, the chess falling by the way near the middle of the floor. These processes were effectual.—Very little chess was observable in the succeeding crops; and no more where the wheat stood thin on the ground, or where it had been winter-killed, than where it stood thick, except that the plants were larger. Although the wheat was run through the fanning mill without a screening board, no deduction on account of foul stuff has ever since been made from grain of his raising.

It is worthy of remark that in the corners of a new fence which he made across his fallow early in the summer,—and which strip was consequently left unploughed, chess grew the next year in spots, as thick as grass in a common meadow.

Let others do likewise; and they will soon discover that clean wheat sown on clean ground has no power to turn into chess. DAVID THOMAS.

The Extracts—dated Waterloo, Oct. 8, 1832.

Your letter of the 5th inst. is before me, and I frankly admit that it affords me much pleasure to add my limited experience as a cultivator of the soil, to yours, in an endeavor to dispel the delusion that wheat turns into chess. The statement which you were so kind as to forward for examination, I have corrected.

And, my dear sir, suffer me to express my astonishment that sensible men should continue to think that wheat turns into chess! A man in this neighborhood, two years ago, becoming excited on the subject, declared that he would convince his sons at least that chess would not grow, and actually went into a corner of his summer fallow, and sowed clean chess. It did grow, however, and all are now satisfied. The delusion in this neighborhood has about subsided, the farmers are sowing cleaner seed and cultivating their land better than they did a few years ago.

My experience is that deep ploughing, a proper succession of crops, clover and plaster, and such manure as usually accumulates about a prudent farmer's barnyard, clean seed and clean land will double, and in many cases treble the quantity of produce usually obtained by common farmers.

The first crop of wheat harvested on my farm, as above stated, yielded about ten bushels to the acre.—This year, judging from what I threshed for seed, one of my fields will yield at least forty bushels to the acre. * * *

(From the New York Farmer.)

AMERICAN HEMP.

The following article has been politely handed to us for publication by Gen. Lynch. It was written to accompany the Hemp exhibited at the Fair of the American Institute last year; but is equally applicable to that exhibited at the recent Fair.

Copenhagen, Lewis County, N. Y.,
Oct. 5th, 1831. }

To the American Institute of the City of New York.—ABRAHAM VARICK, of Utica, presents for exhibition and competition at the Fair in the City of New York, a bale of water rotted hemp, containing about 160 lbs. raised, rotted and manufactured by Dr. Samuel Allen, of Copenhagen, in the county of Lewis, as his agent the present year. In compliance with the request of the Managers of the Fair, Mr. Varick submits a brief statement of the process of culture, and preparing the hemp for market, and will cheerfully furnish any further information which may tend to promote that branch of agriculture, which is attended with such beneficial results to the agricultural interest in particular.

It has been supposed that hemp requires a very deep and extremely rich soil; but it is now satisfactorily ascertained that land which is well adapted to wheat or corn, is equally so to the raising of hemp; and that the same preparation and fertility which will produce a good crop of wheat, is sufficient to produce a good crop of hemp. The quantity of seed to the acre, should be from two to three bushels, according to the richness of the soil, to be sown as early in the spring as the state of the land will admit; but it may be sown at any time until the usual time of planting Indian corn. It is of importance that a full complement of seed should be used, to the end that the stalk should be small, otherwise, if the stalk is large, the quality of the hemp is coarse, the quantity produced is less, and the process of manufacture more difficult. The hemp is fit to be cut when the male hemp begins to wither, and as soon as the seed of the female hemp is formed, and before it acquires any hardness.

The hemp is to be cut with an instrument resembling the common grain cradle, but with a scythe and fingers much shorter, the scythe being only two feet four inches long. The hemp is to remain in the swarth for one day, and then to be turned and remain one day, and on the third day to be bound near the butt in very small bundles, with a band of the hemp. Then to be set up on the butts in shock, until it becomes perfectly dry—the quantity produced, will be from two to four tons per acre, which will yield about one sixth of clean hemp fit for market. Vats are prepared near the mills of about six feet deep, and about eight feet wide; the length to be varied at pleasure; the bundles of hemp are then to be carefully laid in lengthwise, until the vat is full, and pressed down with any sufficient weight to keep it solid. Water is then to be let in at the top, until the vat is filled, and to remain for two days to saturate the mass, after which, it is to be drawn off, and a supply of running water to be introduced, until the vat is filled, which is to run off continually until the hemp is properly rotted. The time will depend on the temperature of the water, and will be from six to twenty days; the water is then let off, and after about eight hours the hemp is to be taken out and set up in the field on its butts, after opening the bundles, against a fence or ropes running through stakes fastened in the ground for the purpose. When perfectly dry, it is bound up and taken to a dry house, where it is to be kiln dried for about two days, from which it is to be taken to the mills for breaking and dressing. The mills used by Mr. Allen, are a patented machine, by Daniel Ball, which is found to break and dress hemp better than any that is known in this country, and by the use of it, one man can probably do as much as ten men could by hand. With very little hand labor it is put in

heads and packed in bales for market, as the one presented at the fair.

The quantity prepared for market, at these mills the present year, will amount to about 60 tons, which will probably be increased the next year to about 200 tons.

Great difficulty has been found in inducing farmers in the neighborhood, to enter into the culture, until the proprietor of the mill offered a fixed price according to the quality of the hemp dried as it came from the field—in consequence of which they have gone extensively into the business, and find it a more profitable crop than any other they can raise.

SAMUEL ALLEN,
Agent for Abraham Farick.

(From the Virginia Farmer.)

MANURE.

Mr. Editor: *Spring Hills, Oct. 12th, 1832.*

I intend now to make a few remarks upon my mode of carrying out my manure, by way of concluding my article on the subject of manures, as published in the 12th No. of the Virginia Farmer.

As soon as the winter stock of manure, or any part of it, is ready to cart out, I start my manure carts (unless the ground is wet) to carrying on the land intended for corn, and get as much out as I can, before I plough the land; which is spread and ploughed under the sod. If I have any of the previous summer manure left on hand, I prefer to spread that upon the fresh ploughed land, and harrow or lightly plough in, on account of its being better rotted. As to manuring corn in the hill, I do not practice it, as I always go for the future good condition of the land, more than any one crop.

I generally have a bit of ground to sow to oats in the spring, upon which I carry out my early summer manure after harvest, and then fallow the same for wheat.

When my corn land is ready for seeding (which never is, until I have gotten the corn and stalks off the ground) my carts begin to carry out such manure as may be on hand, to the poorest part of my corn land, and continue until I am done sowing, which is generally late; as I wait to get the corn hauled off the ground, I am unable to commence as early as my neighbors on that kind of land. It will not do when I have furrowed and dressed off my wheat lots to be running carts in for the corn and stalks.

As to the most economical mode of giving manure to land, my opinion is, that it will be found in that of applying it in the preparation for the wheat crop, but the prudent farmer must give it to something just as fast as he can make it ready, else not only is the interest lost, but a good per cent. of the principal also.

I would here suggest an improvement in the plan usually pursued in carting out manure upon the land. It is this—when I am about to commence the manuring process, I provide myself with an arm full of small sticks, three or four feet long, newly split out, that they may be the more readily seen by the carters, which I stick down about on the ground to be operated upon, one where every load is to go. Thus, if the land is poor, and I design to put fifty loads to the acre, I fix that number of sticks, regularly or irregularly according to the need of the land as I myself may judge. Thus I can lay off two or three days' work for as many carts any time beforehand that suits me. This, I think, is better than the common mode hereabouts. The carter is directed to carry out upon a certain hill or otherwise as may be—perhaps puts some about and about—on ground that would require fifty loads, he puts twenty; and on land that would have done with twenty, he puts fifty loads at unsuitable distances from each other, then, after hands are sent to spread the manure, perhaps a week or two before the plough goes, and with sticks and hoes, they pull the piles about a little, giving to some spots

too much, and to others none; and the consequence is a very irregular crop.

In order to do this spreading business well, (and no business of the farmer is more important) every hand should be provided with a long-handle shovel; then at a throw, they can easily spread to the half way distance between the piles.

Success attend you, gentlemen—it is late at night, and I am tired, having sown wheat on a very steep knoll of ground to-day.

JAMES T. JONES.

(From the New York Farmer.)

THEORETICAL AND PRACTICAL FARMER.

The following article taken from an English publication, contains correct and useful observations.

There is no way in which a farmer may advantageously improve himself in his art than by inspecting the practice of other districts and of other countries, but as the opportunity of inspection cannot always be commanded, the want may be supplied by obtaining circumstantial descriptions. To derive the full benefit from either source requires caution and the power of discrimination; for in no art do so many circumstances combine in the production of the results as in agriculture, and a difficulty generally arises in determining to what cause a particular effect is mainly to be assigned. Individual sagacity without scientific knowledge may go a great way in solving this difficulty, and in determining to what extent an old course may safely be altered, or a new one introduced, or why failure or success has ensued. We find that, in a certain place, the accumulated sagacity of ages has, without being able to ascribe any general principle for the effect produced, established a practice suitable upon the whole to the circumstances of the situation—but if the perfecting the art in every situation be the object, the necessity of scientific knowledge cannot be too strongly impressed.

Theoretical and practical farmers have been sometimes contrasted to the discredit of the former. A mere practical farmer is a man who knows how to manage to good advantage a certain piece of ground. A mere theoretical farmer is a man who understands the principles on which the operations of agriculture depend, without having acquired dexterity in their application. The one may be less successful than the other at first, but place them in a new situation, or let them have to determine on the introduction of a new practice, there can be little doubt which of them, supposing them equal in intellectual endowments, will be most likely to succeed—or in the description of the farm to be here given, which will be mostly to detect what part of the system is erroneous, and what correct. Experiments in agriculture are carried on under many disadvantages. We have it not in our power to vary at will the circumstances in which they are tried, or to repeat an experiment in precisely similar circumstances, and thus we may be led to ascribe to a cause what does not justly belong to it. Fortunately, however, the results in agriculture have their foundation in sciences, in which we have sufficient control over circumstances, and in which the facts can be generalized, and principles established with the completest certainty. Chemistry and vegetable physiology afford the only sure means by which the art of agriculture can be brought to perfection, and Davy and Sinclair have done more towards its advancement, than might have been accomplished in centuries by practice unguided by science. Much has been done, where the knowledge of general principles was wanting, but their use is to diffuse the capacity for improvement, to make its progress more certain and more rapid, and to prevent the adoption of error. Some person may, for instance, have raised an excellent crop after dressing his land with salt, and thousands of bushels are immediately applied as manure, but no man who understood chemistry and vegetable physiology would ever have imagined that land could be made more fertile by such means.

There is every reason to expect that these sciences will soon be more generally understood. In towns, the means of acquiring the knowledge of physics is supplied to mechanics; and all other classes will be forced to keep pace with them. It seems absurd that any human being who can be kept at school for eight or ten years of his life, should arrive at the end of his education, in ignorance of the laws by which the events in nature around him take place. In relation to the aptitude of the human mind, this branch of knowledge might well be taught prior to that which is denoted literature, at least the one should accompany the other, and it is not difficult to conceive plans by which it might form a part of the course of instruction in every country school, without much additional demand of time or of expense. The usefulness of the knowledge here recommended is obvious, and it is unnecessary to insist on the amount to which it would add to the sources of pleasure to all farmers, whether proprietors or tenants. Every land owner living in the country, is to some extent a farmer, or a planter, or a gardener: there is not an object around him that can occupy his attention for a moment, in which his interest would not be much increased by the understanding of physical science, and yet what class in society is so generally unprovided with this fund of intellectual recreation and resource against the tedium of idleness?

(From the New York Farmer.)

COLLECTING MANURE.

A physician remarked to us the other day, that he never yet met with a farmer who considered manure as his gold mine, the treasures of which are to be collected in small grains, and most carefully preserved; but that all consider it rather as iron ore, not worth collecting in small quantities, nor of being preserved from the wastes of exposure to winds, heat, and storms. The following, from the Farm Reports of Kyle, in Ayrshire, speaks a different language:—

To increase the manure raised on a farm is a constant aim. A large portion of the straw is consumed by the cattle and horses, and no hay is ever sold. A considerable quantity of vegetable matter is collected from plantations and waste places, and with this and the refuse of straw, the farm-court and the approaches of it are kept littered so as to collect the droppings from the cattle and horses. The whole is occasionally carried off to the dung heap and new litter applied. It is surprising how much dung may be produced by constantly collecting all refuse, which, if allowed to lie, would soon disappear. The horses are never allowed to pasture; from the first of June to the end of October, they are fed in the house on green food, consisting of red clover, rye grass, and vetches. The calves that are reared are also fed in the same way in a yard, and in the course of the pasturing season, convert a great deal of vegetable matter into excellent manure. There are always, too, at this season, a few pigs fed entirely on whey; and by these means much dung is made even in summer. There is no danger of dung made by animals in yards overheating in the warmest season, but without considerable precaution stable litter will then be very soon consumed away. For the purpose of preventing its rapid fermentation, peat moss was for some years used and regularly mixed with it in layers; but earth of any kind, or road scrapings, will be found to effect the purpose, and in winter the gleanings of the cowhouses answer the end. What is made in spring and summer is taken to the field as often as possible, put up into heaps over which the horses and carts pass, and then well covered over with earth.

EXTRAORDINARY PRODUCTION.—Mr. John H. Tyree of this place, has raised this year, a bushel of potatoes weighing 43 pounds, from two planted last spring.
[Lynchburg Virginia.]

(From the New York Farmer.)

POTATOES.

MR. FLEET:

Lancaster, Eng. Sept. 14, 1832.

Sir,—You inquire if the eyes nearest the stem, or those furthest from it, produce the earliest crops? In this part of England the stem end is cut off, as having no set, and given to the pigs and fowls. The other end, of course, is considered earliest; the middle part is cut according to the number of eyes. Various opinions are given respecting the sides of the sets; but a good strong set or plant seldom fails in giving a good return. Small sets go further in planting, but do not, I consider, in general produce so good a crop.

A single potato, of the early kind, has, this season, produced the astonishing quantity of one and a half pecks.

An extraordinary occurrence in the vegetation of the potato, took place in this neighborhood. In the month of March last, a quantity of early potatoes was planted in the usual way. No appearance of potatoes took place above ground. The owner supposing the sets had been destroyed, the ground remained undisturbed until June, when the owner commenced digging the ground for another purpose. To his great surprise, he found a most abundant crop. Where there should have been a set, there was formed a strong short tube.

M. SAUL.

(From the New York Farmer.)

AMBER BEET OR FRENCH HONEY BEET.

From this noble root, it is said, they are now making a large quantity of sugar. The saccharine quality apparent in this vegetable must render it very nutritious; and for cows it is excellent, for fattening or producing a rich flow of the best milk, and from partial experiment it is believed that one-fourth of an acre of ground would yield eight tons, which would support a cow for twelve months. About 31 lbs. per day for 300 days would probably be needful, and this would consume about five tons; and the other three tons if sold would purchase hay and other food for the 63 days, during the absence of this root—from the time it fails in the spring, until it is again produced. This milk, at the moderate price of four cents per quart, will amount to \$146, and at six cents to \$195. The rent of the land, the seed, the manure, tending the plants and the cow, might be fairly estimated at about 25 cents per day, which would leave about \$60 profit on one cow. A cow thus fed would likely be much increased in value; and the manure, when the fluids as well as the solids are all saved, on the soiling system, the quantity would be surprising, if worked up with proper absorbers.

THE OLD MAN.

Derby, Ct. Sept. 1832.

HORTICULTURE.

(From the Southern Agriculturist.)

MEMOIR ON THE STRAWBERRY.

Read before the Horticultural Society of Charleston, by the President, Judge WILLIAM JOHNSON.

As the season is now at hand which invites the attention of the horticulturist to his bed of strawberries, I will solicit the attention of the Society while I submit a few remarks on this favored protégée of our institution. The practical character of the body I have the honor to address, might excuse me in confining myself to the mere cultivation of this delightful fruit; but when gentlemen unite in associations for patriotic purposes, they may surely be indulged in sacrificing something to taste, and in blending the pursuit of the useful with the gratification of a laudable curiosity; or even in amusing speculation, as far as it contributes to furnish topics for literary inquiry or spirited conversation.

I shall not detain my auditors by an eulogy on the

many excellencies of this admired fruit; the sense of this Society on the gratification it affords to the eye, to the smell, and to the taste, has been amply acknowledged by the effort we have made to render it like gold in the time of Solomon, as common in our markets as the stones in the streets.

A happy augury of ample success has already appeared in a spirited effort of one of that sex, who were born only to add to the cultivated taste and rational enjoyments of life; nor will the employment be deemed at all inappropriate when it is recollected that the fruit and the root furnish, the one an essence, the other a cosmetic, considered by the Parisian belle, as not unworthy of the charms which they contribute to embellish. And the time cannot be far distant when the early production and cheapness of this article will impress on every mind, the propriety and duty of giving a preference in cultivating and improving our own native productions.

That the strawberry is a native, and is susceptible of immense improvement from cultivation, are unquestionable facts. Scarcely is there a region between the Polar-circles where the foot of the early hunter may not chance to be stained by the juices of this dainty esculent. It is, however, true, that from the multitude of birds that feed upon it, from its ripening at the height of the time of ornithological emigration, and the inconceivable rapidity and length of the flight of some of the winged species, the fact of its extensive diffusion is not conclusive to prove either its general or even domestic origin, (for it may have been brought by the birds from Asia,) yet I will be indulged with a remark to shew, that we have no considerable grounds of claim to the honor of having given it to the world; the best species known, America, if not Carolina, most certainly has introduced into Europe, to wit, the Scarlet, the Chilean, and Carolinian, and probably the Hautboy. I think it very questionable whether the strawberry was at all known to the ancients. It is hardly possible to conceive that among a people so luxurious as the Romans, so devoted to the enjoyments of the table, and especially to those enjoyments which horticulture afforded; a people, who held the culture of the earth in such high honor, that the most distinguished of their statesmen and poets have left us instructions for cultivating a leak or a squash, a plum or a crab-tree; a fruit so early, so fragrant, so beautiful, or so salubrious, as the strawberry, should have escaped a passing notice in their books, or not have found a place on the farms in the vicinity of Rome, had it been known to them. Yet, in no one of their writers on geonics have I been able to find a hint on its cultivation, nor even a name for it. It is true, that in our Latin dictionaries we find the term *fragum*, and find it translated a strawberry, and a derivation fancied for it, from the word *frago*, in consequence of its flavor, or according to others *frigida*, and others *frango*, all perhaps, of at least, questionable authority when referred to the general laws of etymology. And it is true, also, that from the term *fragum*, our botanists and cyclopedists have the word *fragaria*, the received name of the strawberry; and of which it is said in Rees, and I think in the French Encyclopedia of Knowledge, "that it was so called by the Romans on account of its fragrance;" but if the term *fragaria* is to be found in any Latin dictionary I am unacquainted with it. In Littleton and Ainsworth, it is not to be found, nor in any ancient author that I know of. The term *fragum* is to be found in one author, and I think the former is fully proved to be a modern substitute for it, by the fact of borrowing from Littleton the etymology assigned to it.

It is then only necessary to examine the word *fragum*, and to determine whether it was our strawberry that was known to the ancients under that name. I think the evidence is full on the negative.

If the word *fragum* is to be found in Virgil, Cato, Varro, Paladius or Columella, it has escaped my eye. In Pliny's Natural History it is to be found; and in

his Translator Holland, it is translated into English as the *ground strawberry*. But let Pliny speak for himself as to the description of fruit to which he applies that epithet. Every one knows that the *arbutus*, so frequently met with in our Latin books, is rendered by translators the *strawberry tree*. And the fruit of that tree is so proverbially harsh and uneatable, that it received, as Pliny says, the epithet *unedoni* from the impossibility of eating more than one at a time. Yet Pliny speaking of the *arbutus* and the *fragum*, and of the resemblance of their fruits, calls them *cogeneres*. This is in the first instance of his mentioning the word *fragum*; but, as if to remove all doubt, he mentions it a second time, and then ranks it among plants "springing spontaneously and bearing thorns or prickles."

It is hardly possible to avoid referring this description to the blackberry, which in its progress to maturity is red, and harsh enough to be well denominated a *cogener* of the fruit of the *arbutus*. To these considerations it may be proper to add that the Greek word given by Littleton, and I think Ainsworth, for *fragum*, is that which the Lexicons give to the *arbutus*. *Fraga* is rendered *La Komara* in Hedericus, and *Komaras* the *arbutus*.

I have noticed the vast improbability of the strawberry, as one among the many inducements to its cultivation. The full value of this characteristic is only known to those who have been engaged in improving it. The Chili strawberry is in various writers represented as reaching to the wonderful size of a walnut or a hen's egg. I have myself witnessed facts sufficient to produce the strongest conviction, and most confident expectation on this subject. Strawberries, originally no larger than the end of one's finger, have, in my garden, in a few years, attained to treble that size. Three inches in circumference is of very common occurrence, three and a half very frequent, and in one instance we measured one four and an half inches. Yet I know that my avocations have always disabled me from doing justice to the article. Perhaps, however, there is little to be gained from raising it beyond the circumference of three inches. At that size the plant bears abundantly and the fruit makes a fine exhibition on a table. The very largest would probably not bear so well, and would hardly ripen through before some bird or insect had inflicted a disgusting wound upon an object so tempting and so conspicuous. Thus we are informed, that the great Chili is not a favorite among the gardeners of Europe, from its unproductiveness, while the early productive and brilliant Carolinian is much cultivated. Indeed, it would seem to have gained upon the Chili by cultivation, until it has either superseded it altogether in England, or to have substituted its name for the latter.

It has been a subject of no little discussion among the learned, whether all the different species of strawberry are any thing more than mere varieties. To vulgar senses, the form, color, growth and flavor of the fruit present sufficient characteristics to distinguish the kind and assign them their respective names; but the learned have been obliged to resort to the form, color, pubescence, and other circumstances of the leaf, the stock, &c. I have never cultivated but two kinds, and those are the two most familiar in our horticulture. The hautboy, which some think a native of Louisiana, is one; and the other is one which, from having repeatedly found it in our native woods, I shall venture to call the real Carolina strawberry.

The subjects to be considered by the cultivator naturally distribute themselves under the following heads:—

1. Soil.
2. Time of planting.
3. Preparing your bed.
4. Setting out.

* Plin. Nat. His. vol. ii. pp. 206, 713.

† *Fragaria Chilensis*, Rees.

5. Dressing an old bed.
6. Care until the bearing season is over.
7. Care afterwards.

1. *Soil.*—In the choice of soil, the strawberry appears to manifest no fastidiousness. We find it growing naturally in every description of soil, and surviving in despite of all kinds of neglect and rough treatment. The only exception that I know of is, that the water must not rest on or in the soil to which you consign it. Also, when growing in our gardens, in a sandy soil, unprotected from the summer's sun, it will perish, unless sufficiently watered. Yet I am inclined to think that in a natural state it affects a soil rather low and clayey. In glades and meadows, and particularly on the immense prairies of the western country, we find it flourishing, and bearing, and enduring in the highest degree for a state of nature; I have not had opportunities of observing, however, whether this may not be attributed to the protection which such places afford to its roots against the summer's sun, and the fires that annually pass over them. It is a common practice with many gardeners to strew their beds lightly with trash, and burn them off preparatory to dressing them; from perceiving, I presume, how the roots sprout and flourish in the meadows after the fire has cleaned them from the accumulations of grass and weeds which grew over them through the summer. But in a light soil and dry situation, I should think it a hazardous experiment. In a moist place, or clayey soil, perhaps, it may be as safe as well as an expeditious method of clearing the plants of the dead leaves and accumulated trash of the past year. The soil of my garden was originally a very poor sand, full of nut-grass and very sterile; by the aid of marsh-mud, stable manure, and compost, I have made it very productive in most kinds of vegetables; and such is the only soil on which I have cultivated the strawberry. A rich sandy loam is what the foreign gardeners recommend, but I should say that the plant would succeed on any soil properly tempered to its habits; and I am well satisfied that in the efforts that are made to bring it to perfection, we often make the soil too rich, than leave it too poor. Hence so many beds disappoint the expectations of the zealous cultivator, by giving him abundance of large leaves but very little fruit. There is a medium which it is difficult to describe, but which seems indispensable to success with the strawberry. A natural tact, or a few experiments will, however, be sure to make us masters of it in a year or two.

2. *Time of Planting.*—For the simple purpose of propagation, the strawberry may be planted during a large portion of the year, perhaps in any month of the year, in our climate. But it will in summer require careful watering. And if planted at any time before the first of February, it may produce fruit, but the time to which I have finally confined myself, is from the autumnal equinox to the tenth of October. During that period it takes readily, requires little, if any, watering after the first insertion of the plant, and bears a crop of good fruit the ensuing spring.

3. *Preparing your Beds.*—Putting a bed in high tilth is a standing rule in horticulture whatever be the plant to be cultivated. This, therefore, I assume as having been done. Manuring is another standing rule, but in this instance it must be restricted by the suggestion before made, that a soil may be rendered too rich for strawberries. It is impossible to lay down any precise rule on this subject, although an all-important consideration in the culture of this article. Much must depend upon the observations of the cultivator, and perhaps it may be enough here to say, and is certainly as much as one can venture to say, that land which will produce a crop of corn of twenty to twenty-five bushels to the acre, will produce a good crop of strawberries.

Most persons are in the habit of making oblong beds of such a width as to admit of the gathering of the fruit from the paths on each side. And such is the mode recommended generally in the books. But

I have long since abandoned it and substituted another which I find more convenient. The size or proportion of my bed is immaterial; for I make small ridges upon it at from eighteen inches to two feet apart, on the summit of which I insert my plants in a single row. There is no loss of ground in this mode of planting, since, with beds at eighteen inches apart, and plants at eight inches distance on these beds or ridges, you have the same number of plants, as if set in the ordinary mode and twelve inches apart each way. The additional labor is trifling, and will be fully compensated by the increased facility in weeding, watering, gathering, and redressing. But the principal object in adopting this mode, is to keep the fruit the better off the ground. It is also a neater and more ornamental mode of cultivation, gives a better circulation of air, and your plants bear better and finer fruit when so arranged.

4. *Setting Out.*—This is done by stretching a line along the summit of the ridge, and making holes along under the line with a trowel by an eight inch measure in a single row; after which, the plants must be watered the same day, and it would be advisable to repeat the watering, if the weather is dry. A little attention to watering at this time will save the necessity of replenishing, when, perhaps, your plants have been hoed up or given away, or the season too far advanced for the sets to take good root before the severe colds, or to produce a satisfactory crop in the spring.

It is hardly necessary to add (for no horticulturist should be suspected of slovenly habits) that the sides of the ridges should be neatly raked and levelled, after the planting is completed.

5. *Dressing an Old Bed.*—The books generally maintain that a strawberry bed should be renewed every three years. I shall have occasion before I conclude, to consider the question whether it would not be the best economy to renew it every year. But in order to give an option to the horticulturist, I will suggest a method of dressing an old bed, which renders it unnecessary to abandon it at all, and which is necessary to be attended to every year if you would have regular beds and good fruit.

The first week in October, and after filling up the new beds from the select succors of the old, you stretch a line along the summit of the ridge, and draw up a little earth so as to restore the regularity of its form whenever it has been impaired by the rains and other causes between the season of bearing, and that of dressing. You then select young plants from your runners, and replenish the summit of the ridge under or near your line, where the plants have failed, (as many of them always will fall from the ants, the sun, and a worm that sometimes attacks the roots.) When that is done, hoe clean between the ridges and turn up the ground about half a spade deep.

It may be that the bed needs manuring; for either the plant or the exposure of the soil to the sun, produced in cultivating it, certainly does weaken the soil. This is always perceived by the pale hoe and stunted growth of the plant, and in that case manure must be scattered before the spading is given to it.

After this dressing, as you can have easy access to every part, care must be taken to eradicate the weeds and nut-grass; for the true reason why the breaking up of the old beds become necessary is, that they get foul and exhausted. By pursuing the method here suggested and drawing up the manured soil to the roots of the plant, I have kept the same bed clean, full, and in heart for ten years, and it may be kept as many more.

6. *Care until the bearing season is over.*—In common with all other plants, the strawberry beds must be kept clean from grass and weeds, the surface occasionally stirred and the earth lightly replaced to the roots. The attention peculiar to the plant consists only in taking off the runners. The mode of doing this I consider all-important to successful cultivation, for the fibre is strong, and whenever jerked off by the

hand, the root of the plant is shaken, its tender shoots broken, and its growth always impeded, often entirely put an end to. I hold it to be indispensable, that the runners should be clipped off by scissors, or cut with a sharp instrument. The most simple and expeditious mode is, by fixing the blade of the knife, or something of the kind, obliquely on the end of a short staff, so as to do it in a standing posture, and with an oblique cut. This I have always found most difficult to get our slaves to perform as it ought to be done, but it must be enforced or you will find your bed unequal in growth, and uncertain in production.

We find the name of *straw-berrie* attributed in the books to the practice, said to be prevalent among European gardeners, of raising the fruit from the ground by adjusting straw to the root. In our sandy soil, I am fully sensible of the benefits to be derived from the practice, for the fruit becomes gritty, covered with earth, and of an earthy flavor often, when in contact with the soil. Besides which, worms, that never quit the earth, often attack it in that situation and destroy it wholly or partially. But the trouble and difficulty of procuring the straw proper for the purpose, have prevented me heretofore from resorting to the practice. This year, however, an experiment to determine how close the *holcus sorgum* (Guinea corn) may be planted in drills, to be productive, has put me in possession of an article and a fact that will enable me to avail myself of this improvement. Thus planted, the holcus produces an abundance of straight, slender, tall and durable stocks, and yet, abundantly rewards the cultivator with its grain. These stocks will answer admirably to be applied on both sides of the plant, and can easily be sustained in their places by pins, until the bearing season is over. I anticipate a great improvement from it, and every garden can advantageously cultivate a sufficient quantity for its own use.

7. *Care necessary after the bearing season is over.* Those who hear me, if any have never cultivated this plant, will, perhaps, be surprised to know that this is the most troublesome part of the year in cultivating the strawberry; or at least that part of the year in which it is most difficult to know what is to be done. From the month of October to the month of June, the beds are kept clear by comparatively small labor, and so far it is an article of very easy cultivation. But from that time, to keep the beds clean and the runners in check, require no little labor, and is always attended with this danger, that by keeping the earth exposed to the sun, the soil is impoverished and the roots exposed to be killed by the heat; an evil which, if the summer is not more rainy than ordinary, will often extend to your whole bed, unless prevented by shade or irrigation. And on the other hand, if you suffer the grass and runner to grow, the grass, if your land is at all in heart, will be apt to kill down every plant and leave you a very feeble stand, if any thing, when you have cleaned up your beds. Indeed, in extracting the roots of our crab grass, every strawberry root that remains, if alive, will be so shaken as to endanger its existence, or render it very feeble, besides destroying all your suckers. The great risk of losing even my plants from these causes, induced me to plant peach trees over one of my beds, and these or any other deciduous trees will, in a great measure, protect the plants in summer without shading them too much in winter. But, otherwise, we must submit to the labor of keeping clean and watering liberally.

These facts have raised in my mind the doubt whether it would not be good economy to make new beds annually, and only preserve as much of the old as will supply an abundance of plants. It is true, this will be injurious both to the uniform quality and quantity of the fruit. But it will be a saving in labor and care; quantity may easily be supplied by extending the planting, and if the beds be planted by the first week in October, in a soil of a suitable fertility, the quality of the fruit will be very respectable. I would not be understood as recommending this alternative, but only

as submitting it to the consideration of the experimenter. It will, however, be always prudent, and such is said to be the practice of the European gardeners, to have a nursery of plants in a shaded spot, or one of a northern aspect, and even then, not to neglect irrigation. For want of attention to this precaution, I have known sundry individuals who had to depend annually on their neighbors for plants, whereas, a prudent manager will always have them to give away, if ever he has once fairly embarked in the cultivation of this article.

Upon the whole, I will conclude with this remark, that success in raising the strawberry will depend mainly upon—1st, establishing and dressing your beds in the proper season. 2d, producing the proper medium of fertility in the soil. 3d, taking away the runners without shaking the roots. 4th, keeping your beds in good heart and clean; and 5th, watering and shading without stint when the season requires it; and lastly, in never crowding your plants unreasonably, for, in this instance, may the farmers rule most emphatically be applied, "that the half is worth more than the whole."

(From the London Horticultural Register.)

CULTIVATION OF ANNUALS, BY CUTTINGS.

From various, though not accurately noted trials, I am satisfied, that many of the best annuals which are universally raised from seeds only, can successfully be cultivated by cuttings. A double advantage must result from this mode of cultivation; for, first the trouble and risk attendant on the progress of the young seedlings during the dark and humid autumnal and winter months, will be obviated; and secondly, the periods of flowering will be altered and greatly extended. One recent instance, I can point out with sufficient accuracy. Referring to my diary, I find, under the date September 21st, 1831, that four cuttings of *Coreopsis tinctoria* were taken off from an old plant, at the axilla of the leaves (i. e. the points where the leaf-stalks emerge from the stems); and placed in pots, in a soil composed of light loam and leaf-mold: each cutting might be about three inches long. The pots were plunged in the earth of a melonry, and covered with a small bell-glass.

I could not pay the plants that attention which they really required, in consequence of an alteration that was made in the pit; and by which many of its vegetable tenants were greatly injured. I however succeeded well with one of the cuttings, and this was finally placed in a small pine stove, during the winter. Here, the temperature was never very high, because my object was not to force any plant to grow during the dark months; and therefore, as the climate very frequently did not exceed from forty-five to fifty degrees, during many of the winter nights, I am confident that a good dry green-house, or even a sitting room, would have afforded sufficient protection.

The plant was kept in the stove till it attained the height of about three feet: it had one simple and erect stem, and was in strong and vigorous health. In May, it disclosed the first flower-bud at the summit, and then the plant which had been kept in a pot of the forty-eight size, was removed to a thirty-two. I at that period took it from the stove, and placed it in the dwelling-house, in a window with a southeast aspect; and in a few days afterwards removed it from the pot, and planted in a flower-border.

By so doing I acted prematurely, for not only was the plant exposed to frosty nights, but it suffered severe assaults from violent winds, by one of which the summit was broken off; and I thus lost my first blossom-buds. The plant however did not suffer materially, for it threw out six or seven fine lateral shoots, and now stands four feet high, with a branching head, covered with its beautiful orange-coloured blossoms. The larger flowers are of the diameter of a crown-piece, the smaller are as large as half-a-crown; and twenty or thirty of such flowers on a plant so erect

and well balanced as mine is, form a beautiful, and at this period of the summer, a rather peculiar object.

I wish to call the reader's attention to one fact of importance, it is this, the coreopsis may not only be propagated in the autumn by cuttings, but it will endure almost any variety of temperature, after being once fairly established, and in a healthy growing condition. My house was frequently heated by the sun to eighty-five, ninety, and one hundred degrees, (the thermometer suspended in the shade) during the months of March and April; and after the plant was removed into the open border, the external temperature was in several instances below thirty-five degrees.

The fact that various annuals, the balsam, coreopsis, and others, may be raised from cuttings, is doubtless known now to many; but the constitutional hardihood by which some can support great and sudden transitions, may not be so generally known.

Though I may not have added much to the stock of scientific information, by this communication, I hope I shall be so fortunate as to induce many persons to prosecute experiments upon subjects which may afford much pleasure and rational enjoyment; and perhaps, lead to discoveries of great and permanent utility.

G. I. T.

July 2, 1832.

HORTICULTURE OF VENICE.

The principal melons are, the melamocessi, easily known by the stem, being from two to three inches thick, and very knobby. The canteleups, with yellowish or whitish flesh, the raphaghini, which climb on trees and shrubs, and have their fruit closely covered with a whitish net; and the Buchari (bucharian melon) much cultivated on the islands of the Levant. These latter melons are of an elliptic form: their skin is smooth, and of a whitish yellow, the flesh is sugary, of a white colour, and in the centre, where the seeds are contained, it is hollow. They are sometimes one and a half feet in length, and several pounds in weight; their principal merit, however is, that they will keep good till Christmas, if kept in a dry and cool place. It is remarkable, that pieces of this very sweet fruit, become intensely bitter when rotten. The seeds of the melons are generally put in good wine a short time before they are sown, which is done in April. Holes of one and a half feet in diameter are made five feet apart; they are nearly filled with dung, and five or six seeds are sown in each, and covered with light soil. Two of the strongest plants only are left after they come up, and during their growth the most luxuriant shoots are cut out. Particular attention must be paid to observe the time of ripening of the fruit, which generally occurs at mid-day, and is known by the aromatic smell thrown out. The melons must then be cut, [from the vine] and kept in a cool dry place, as they lose their flavour entirely when left a few hours on the plant after their ripening. Not only the flesh of these melons is employed for food, but also the seeds which when bruised, and put into water with sugar, make a very agreeable liquid, (semuda.) The water melons are also very extensively cultivated, much in the same way as the others. The seeds of the common sort are black, and those of the better variety (angurie zuccearine) brownish yellow, with black spots. The fruit weighs from ten to fifty pounds, and a criterion of its ripeness is, when on being struck, it gives a hollow sound; or when it cracks on being squeezed. Cucumbers are cultivated, but not much esteemed. Pumpkins are principal articles, in Venetian horticulture; and several, particularly cucurbita melopepo and moschata duchene, are grown to great perfection. The last of these sometimes attains from three to four feet long, and 100 lbs. in weight. Solanum melongena and lycopersium, [egg plants and tomatoes] artichokes, carrots, radishes, spinach, and purple broccoli, are very fine; cauliflower, and several species of

asparagus, which are there used, are plentiful; but kohlrabi, and common winter cabbage are not known. Celery grows wild near the sea. Fennel forms an eatable bulb above the root, for which it is much cultivated, as well as for its aromatic seeds. Lettuces are used only when young plants, they never form a head, in consequence of the heat of the climate.

[Pruss. Gard. Soc.]

EXPERIMENT IN HORTICULTURE.

Mr. Knight, (florist and nursery-man, in the King's Road, Chelsea,) made the following successful experiment on a mulberry tree, which, except one very large branch, was either dead or decaying. When the sap had ascended, he barked the branch completely round near its junction with the trunk of the tree, and having filled three sacks with mold, he tied them round that part of the branch which had been barked, and by means of one or two old watering pots, which were kept filled with water, and placed over the sacks, from which the water gradually distilled, the mold in the sacks was sufficiently moistened for his purpose. Towards the end of the year, he examined the sacks, and found them filled with numerous small fibrous roots, which the sap, having no longer the bark for its conductor into the main roots of the tree, had thus expended itself in throwing out. A hole having been prepared near the spot, the branch was sawn off below the sacks, and planted with them, the branch being propped securely. The next summer it flourished and bore fruit, and is still in a thriving state. *Jesse's Gleanings in Natural History*, page 145, extracted by

A CONSTANT READER.

CULTURE OF THE CARNATION.

The flowers are propagated either by seed or by layers; the first is the method for raising new flowers; the other is the way to preserve and multiply those of former years. To raise them from seed; that from the best double flowers should be selected, which will produce the strongest plants, and should be sown in April in pots or boxes of fresh light earth, mixed with rotten cow manure, exposed to the morning sun, and occasionally watered. In a month the plants will appear, and in July should be transplanted into the beds of the same earth, in an open airy situation, at six inches distance, and there left to flower. When in flower, the finest kinds should be marked, and all the layers that can be, should, during the time of flowering, be laid down from them; these will have taken root by the end of August, and are then to be taken off and planted out in pots in pairs.—E. RUDGE, Esq. F. R. S.—*Low. Gard. Mag.*

SILK.

There may be seen at the Town Hall to-day, among the articles of American Manufacture, silk in all its various stages of preparation, from the looms of Mrs. Shaw in Belchertown. There are 1200 skeins of sewing silk of all colors and beauty; 350 sticks of silk braid; 66 skeins of silk from the fluss or tow as it is called; 10 hanks of silk reeled upon the Italian reel, and many bundles reeled upon the American one; the difference is striking. There are also silk hose made from raw silk and the tow also, a very firm and neat article. Mrs. Starkweather of Northampton, also has some beautiful specimens of silk hose wove in this town and bundles of raw silk for exhibition. The cocoons in their various stages may be seen there also. We rejoice to see public attention turning to this practically useful branch of business.—*Northampton Courier*.

GERMINATION OF SEEDS.—Mr. Bosse finds that the germination of seeds is accelerated by moistening them in malic acid; and also that covering seeds with the pulp of rotten apples, causes them to germinate sooner than usual.—*Pruss. Gard. Soc.*

(From the New York Farmer.)

MILLINET BOXES.

MR. FLEET: August 20th, 1832.
Take thin lath boards, say half an inch thick; slit them with a lath gauge into strips four inches wide. Saw these strips into pieces eight inches long, and nail them together in a square form, with inch brads, then cover them with millinet, nail them with tacks and leather or tape; then paint with some cheap paint to preserve the millinet from mildew and mice. These boxes should be put over all vines, such as melons, cucumbers, squashes, &c. as soon as they appear above ground; they may then be removed and put away for the season.

These boxes will be found an effectual remedy against frost and bugs. They are much cheaper than hand or bell glasses, less liable to be broken, and as giving more air to the plants, I think are better than either. If carefully used, they will last for a lifetime, and be found a very useful auxiliary in raising most tender plants. Let them be made in leisure winter hours.
Yours, &c. AGRICOLA.

(From the New York Farmer.)

LAYING PLANTS.

MR. FLEET: August 20th, 1832.
Many of our garden plants, shrubbery and trees, may be multiplied by layers. To do this work, dig round the plants and hoe a hill three or four inches high, in which draw a trench, and bring down the branch intended to be laid, and fasten it in the trench with a hooked stick; then cover about two inches deep, leaving the top out. In a short time they will put out roots, and may be separated from the main plant, and transplanted into a nursery-bed, or set where wanted, and will make good plants.

By this mode you may increase your grapes, your rose bushes, plinks, sweet-williams, and almost any perennial plants.

For shrubbery and trees, take a box, nail four pieces to it of a length to raise it to the branch you wish to lay, fill the box with earth, and draw trenches in the dirt about three inches deep, in which lay the branches and fasten them as above directed with hooked sticks, and cover them with earth for two or three inches.—They will put out roots where covered with earth, and may afterwards be separated and transplanted.—By this mode, quinces, cherries, and generally most kinds of ornamental trees, may be multiplied at pleasure.

This is a much cheaper mode of multiplying fruit and ornamental trees, than applying to nurserymen, and is within the reach of every gardener and farmer.
Yours, &c. AGRICOLA.

RURAL ECONOMY.

RAISING WATER IN SPAIN.

MR. SMITH: Portsmouth, Ohio, Nov. 25, 1832.
In one of the late numbers of the American Farmer, some of your correspondents are requested to furnish an account of the machine used in Spain for raising water for the purpose of irrigating land. As this is a subject of much importance, I take the liberty to send you the following extract from that very interesting work "*A Year in Spain*."

"The fields about Barcelona are cultivated with the greatest care, and are extremely productive in silk, wine, oil, figs, oranges, almonds, apricots, and pomegranates; flax, wheat, barley, oats, rye, and Indian corn, with every species of esculents. When contemplated from above, this scene of varied production, neatly divided into fields, and enclosed by hedges of aloe delights the eye and fills the mind with the most pleasing sensations. The leading feature in the cultivation here, and to which much of its fertility is owing, is the system of irrigation. With a view to

facilitate the operation, the fields are levelled into terraces; and a small stream, which runs by the city, furnishes the lands through which it passes with water; but it is more generally procured on each little farm by a machine called the *noria*, introduced by the Saracens. It is of general use throughout Spain, and is of essential value in so dry a climate.

"The *noria* consists of a vertical wheel placed over a well, and having a band of ropes passing round it, to which earthen jars are affixed. These jars, set in motion by the turning of the wheel, descend empty on one side, pass through the water in the well below, and having small holes in the bottoms for the air to escape, fill easily, before they ascend on the opposite side. A little water leaks from the holes during the ascent, and falls from jar to jar. When arrived at the top, the water is emptied into a trough leading to a reservoir, so placed as to overlook every part of the field which it is intended to irrigate. Connected with the reservoir is a basin for washing clothes. As for the vertical wheel which immediately raises the water, it receives its motion from a horizontal one turned by a horse, cow, mule, or more commonly an ass. There is something primitive in this rude machine, that carries one back to scriptural scenes and oriental simplicity. Often have I sat by the road side for an hour together, watching the economy of these little farms, such as one may see in the environs of Barcelona. While the laborer was digging among his lettuce, that old fashioned animal, the ass, performed unbidden his solemn revolutions; the wheel turned, and the ropes of grass brought up the jars and emptied them of their burthen, while at a neighboring reservoir a dark eyed damsel would be upon her knees beside the basin, her petticoats tucked snugly around her, and as she rubbed the linen with her hand or beat it against the curb stone, singing some lowlandish air, like any thing but the music of Europe. Much labor is doubtless lost by the rude construction of the *noria*; but the system of irrigation, with which it is connected, is an excellent one and is the means of fertilizing lands which most otherwise have remained uncultivated." Vol. ii. p. 44.

Although it would not be advisable to follow exactly the custom of the Spaniards, yet our farmers may take a hint from them which will be valuable. This simple machine may be very much improved by our ingenious mechanics.

[We are inclined to think that the machine in use at the Orange Farm, near this city, and which we referred to at the time of publishing the request alluded to by our correspondent, is very far superior to the *noria* described in the above extract. The cost is trifling—we should suppose not much above \$50, and the animal power required is merely a common sized dog. Its efficiency is as great as its economy. Two or three dogs pump water enough to supply a large dairy farm, (with 100 cows and other stock) with all the water used on it; and the wells are very deep. We have no hesitation in saying that those who have a never failing well with a common pump, may attach this dog wheel to it for \$30, and that thereafter they may have a steady stream of water flowing from it for \$20 a year; that is for the expense merely of keeping three dogs. To this wheel also straw cutters, churns, grindstones, &c. may be geared, so that the dogs may cut straw, churn butter, turn grindstones, &c. at times when water is not wanted. All this is done on the Orange Farm.—Ed. Am. Far.]

(From the Baltimore American.)

MANUFACTURING FLOUR.

A valuable improvement in the mode of manufacturing flour, in order to preserve it in a sweet and sound condition for a long period, has been for some time past in practical operation at the flouring mill of Nathan Tyson, Esq. on Jones' Falls. On various occasions in the shipment of flour to hot climates or

to the distant ports in the Pacific, merchants have sustained material losses in consequence of the article having proved sour and unsound on its arrival out, in spite of all the care that had been employed in the selection of wheat and its conversion to flour. To obviate this difficulty is the design of the improvement of which we are now speaking, and the inventor, acting on the principle that by removing the cause the effect will also necessarily be removed, has erected on one side of his mill a furnace with drying cylinders, by means of which, after the flour is ground and bolted in the usual way, it is deprived of all its moisture—the substance which it is believed is the primary cause of its fermentation and becoming sour and hard. The apparatus is simple, economical and efficient, and the heat being applied externally to the cylinders, does it office without in any way affecting or altering the original flavor of the flour. As far as the article made in the way has been submitted to the test of experiment, the result has been perfectly satisfactory. A small parcel has been sent to Rio de Janeiro and brought back again to this port, and is as sound and good now as at the time of its manufacture. The real value of the improvement can, of course, only be fully tested in a more enlarged field of experiment, and to a trial of this kind it is now submitting in a cargo of two thousand barrels, despatched on a distant voyage. Should the process be successful in furnishing so important an article as flour divested of its ordinary tendency to spoil, it will prove invaluable for the purposes of commerce. To our friends in the west, who send their flour to the New Orleans market, under the disadvantages of a long voyage and hot climate, it cannot be less important.

PICKING COTTON.—We have been favored with the following statement of the quantity of cotton, recently picked out by some negroes belonging to Richard Hines, Esq.

	Oct. 29.	Nov. 1st.
Cherry,	240 lbs.	280 lbs.
Little Austin,	214	271
Ned,	185	250
Lucy,	185	216
Hampshire,	227	229
Big Antony,	212	
Little Antony,	184	207
Penny,	154	
	1601	1453

Averaging, the first day, 200 1-8 lbs. to the hand, and the second day 242 1-6 lbs. to a hand. We are also requested by Mr. Benjamin Harris to state, that if any person doubts the correctness of the above statement, a bet of \$100 can be had, that the six hands that picked on the first of November, can beat any other six hands belonging to one person in the state—or, that they will pick out 1300 lbs. in one day, in any fair field of Cotton—or, that the girl Cherry will beat any one hand that can be brought against her.—*Tarboro' N. C. Free Press.*

MANAGEMENT OF SWINE AT THE SOUTH.—An extensive farmer in Twigg's county, has given us some additional particulars on this subject. He makes from 40 to 50,000 weight of bacon annually. His hogs roam at large till late in the summer. When his sweet potatoes and peas begin to get ripe, he has his hogs turned in upon them, one field at a time, and allowed to remain until pretty well cleared. They are then turned into another field, and so on. He never loses any of his hogs by this course—as often happens when fed upon peas alone—he thinks potatoes and peas preferable to either separate. A short time before killing, he pnts them in pens and gives them corn. His hogs are the common breed. Has at this time about 350 head. He plants potatoes and peas in every field especially for this purpose.

[Southern Planter.

GENERAL

Agricultural and Horticultural Establishment;
CONTRISING;

A Seed and Implement Store, a General Agricultural Agency, and the Office of the AMERICAN FARMER, at No. 16 South Calvert street, Baltimore: in connexion with a Stock and Experimental Farm, Garden and Nursery in the vicinity.

The subscriber, proprietor of the above named establishment, respectfully informs Farmers, Gardeners, and the public generally, and *dealers particularly*, that he is prepared to execute orders in any or all of its departments; and he solicits those who feel interest in his plan to furnish him with their addresses (free of expense to him,) on receipt of which he will forward to them an extra number of his paper, the American Farmer, containing a full description of his establishment, and a priced Catalogue of Seeds, &c. for sale. In every village in the Union a quantity large or small of CHOICE GARDEN SEEDS would find a ready and profitable sale, and the advertiser has prepared his Seed Store specially with a view to supply dealers on very liberal terms, for cash or acceptance in Baltimore, with first rate seeds, papered and labelled, put up in boxes expressly for country dealers. He ventures to affirm, that for those who desire any of the articles comprised in his extensive establishment, there is not in the United States a more eligible place than this to apply for them, as it is a repository in which are concentrated, or may be procured on short notice, from all parts of our country (and not a few from remote parts of the earth) a vast variety, many of which are very rare and valuable, of Seeds, Plants, Trees, Roots, Vines, Domestic Animals, Books, Implements, and last, though not least, a constant fund of timely and important information on almost every subject interesting to a cultivator of the soil. This last is imparted weekly to subscribers, for a small annual contribution, through the columns of the American Farmer, in which are indicated also, by advertisement and otherwise, the supplies of choice commodities, both animal and vegetable, as they are received at the establishment. The subscriber is agent also for the principal Nurseries and Gardens in the Union;—and for several celebrated breeders of fine cattle, sheep and other domestic animals;—also for the United Society of Shakers, at New Lebanon, N. Y. a full assortment of those celebrated Garden Seeds, fresh and genuine, may at all times be had from him, wholesale and retail, on the best terms.

Address I. IRVINE HUTCHCOCK,
Baltimore, Md.

BLOODED STOCK FOR SALE.

A public sale of thoroughbred horses, (the property of Vanbrugh Livingston, of Westchester county, N.Y.) will take place at the New York Tattersalls, on Monday, November 26th, 1832, at 3 o'clock, P. M.

1. DIE VERNON, b. m. foaled 1819, now in foal to Henry, (bred by Benjamin Ogde, Esq. of Maryland,) sired by old Florizel; dam by Oscar; grandam by Hero; g. grandam by Gabriel; g. g. grandam by Chatham; g. g. grandam by imported Slim; g. g. g. grandam by old Figure; g. g. g. g. grandam by Dove; g. g. g. g. grandam by Othello. Vide Turf Register, v. 1.

2. WILD CAT, b. m. foaled in 1823, (bred by Mr. C. R. Holden) sired by Diamond (a son of imported Sorrel Diomed, out of a Grey Diomed mare) dam by Orelia; grandam by Prendergast's Childers; g. grandam by Bachlor; g. grandam by Hero; g. g. grandam by imported Creeper; g. g. g. grandam by imported Herod; g. g. g. g. grandam by Bashaw; g. g. g. g. g. grandam by imported Lath; g. g. g. g. g. g. grandam by imported Wildair.

3. LALA-ROOKE, b. m. foaled in 1821, (bred in Kentucky, by Richard Simpson,) sired by Capt Fox's Whip, who was by Rhoad's Whip, out of a Bonpard mare; dam by old imported Dion; grandam by old Comet; g. grandam by Malcom Hart's imported old Medley; g. grandam by old Celer. Certificates of her performance to be seen at Tattersalls. She is now in foal to Moskow. No. 6.

4. BLUE BELT, c. f. foaled 1830; dam No. 2; sired by a son of Dr. Thornton's Marylander, out of the Virginia bred mare Sally Dunn, which was by Florizel, out of a Diomed mare, and the Diomed mare from a Bellair; Marylander by Ratler, out of Noli me Tangere, who was by Top Gallant out of the dam of Sir Archy.

5. VERONA, b. m. foaled 1826, (bred by V. Livingston,) sired by old Ratler; dam No. 3; in foal to Moskow.

6. MOSKOW, eh. h. foaled 1826, (bred by V. Livingston,) got by American Eclipse; dam Die Vernon, No. 1.—See Turf Register, Vol. 1. Moskow stands rising 16 hands; was never trained.

7. BAY MARE, by old Duroe, (not thoroughbred,) foaled 1816; the full pedigree of her dam unknown; in foal to Kirkland by Sir Archy, &c. At the New York County Fair in 1822, she was awarded the first premium of \$40,—for, "the best brood mare and colt." An offer of \$750 was refused for one of her colts by Bussorah.

8. MISS FISHER, b. m. foaled 1828, (bred by Mr. Henry N. Cruger,) sired by John Richards; dam by Gen. Cole's Hamiltonian; grandam (imported) by Catter; g. grandam by Tentham; g. g. grandam by Henriette; g. g. g. grandam by Regulus, &c.; now in foal to Moskow.

9. AMAZONIA, b. m. foaled 1827, (bred by Vanbrugh Livingston,) sired by Henry; dam, Die Vernon; now in foal to Moskow, for whose pedigree see Turf Register, Vol. 1.

N. B. Documents relating to the aforesaid pedigrees and to further particulars, can be examined at Tattersalls, at any time previous to, and during the sale.

None of the aforesaid mares have ever been trained, excepting Lalarooke, who ran with success in Kentucky and South Carolina, before she was three years old, as can be seen by certificates above referred to.

The horses can be seen at Tattersalls, within four days, (inclusive) previous to the day of sale, and also before this period, at the farm of the subscriber, near Dobb's Ferry Landing. VANBRUGH LIVINGSTON, (Calendar,) near Dobb's ferry, West Chester County, New York, Nov. 1832.

PATENT CYLINDRICAL STRAW CUTTER.

The subscriber would inform the public, that in the year of 1816, he commenced making improvements in Straw Cutting Machines, and paid his undivided attention to that one object for five years; that in 1821 he obtained a patent from the United States for his IMPROVED CYLINDRICAL STRAW CUTTER, and has been manufacturing them ever since; during which time he has added some valuable improvements to it, and turned out nearly five hundred machines which, have given general, and he believes universal satisfaction to his customers, and that he still keeps a full supply of them on hand of various sizes and prices, viz.

Extra knives, \$25.00, 37.50, \$40, \$45, \$50, and \$55.
3.50, 3.00, 5. 5, 6, and 10.

The two first named are too small for farming purposes, but suitable for a person that keeps but two or three horses or cows. These machines are adapted to the cutting of all kinds of forage, straight or tangled, coarse or fine, corn stalks, &c. and are simple and durable in their construction.

Determined as he is to be unremitting in his exertions, he hopes to sustain the high reputation, he has gained for these machines, and to afford them as low as any one can. He also keeps constantly on hand, a general assortment of IMPROVED PLOUGHS, and every other implement in the Agricultural line, which are manufactured with care, and of good materials, and will be afforded on pleasing terms.

J. S. EASTMAN,

Nov. 9. Pratt, between Hanover and Charles streets.

BOTANIC GARDEN AND NURSERY.

The subscriber, proprietor of the above establishment, informs his friends and the public, generally, that he has on hand an extensive assortment of Greenhouse Plants, Trees, Ornamental Shrubs, Bulbous Roots, &c. and also furnishes collections of American seeds for exportation. Those wishing to send abroad would do well, by applying shortly, as this is the best time for making selections. He also offers for sale many new Perennial Plants, that stand the winter with scarce any protection.

N. B. Gardens neatly taken care of, and Bouquets furnished at the shortest notice, on terms as reasonable as by any in his line of business. Apply at the corner of Pine and Lexington streets, adjoining the Pottery.

JOHN FEAST.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—There is a little advance in the prices of grain, but flour remains the same as at our last. The wagon price of Howard-st. yesterday was \$6.182 a 6.25. We quote new corn as it is now coming in retty freely—old continues scarce and high.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 293 hhds. Md.; 13 hhds. Ohio and 3 hds. Virginia—Total 309 hhds.

FLOUR—best white wheat family, \$6.75 a 7.25; super Howard-street, 6.31 a 6.74; city mills, 5.874 a 6.00; city mills extra 6.124 a 6.25;—CORN MEAL, bbl. 3.50; GRAIN, best red wheat, 1.17 a 1.20; white do. 1.22 a 1.26;—CORN, old, 50 a.—NEW 60 a 65;—RYE, 71 a 72—OATS, 40 a 43.—BEANS, 75 a 80—PEAS, 65 a 70—CLOVER-SEED 7.00 a 7.50.—TIMOTHY, — a — ORCHARD GRASS 2.00 a 2.25.—Tall Meadow Oat Grass 2.00 a 2.50.—Herd's, 75 a 874.—Lucerne — a 874 lb.—BARLEY,—FLAX-SEED 1.50 a 1.62.—COTTON, Va. 3414—Low. 9 a 13—Alab. 5 a 12.—Tenn. 5 a 11; N. Car. 8 a 12.—Upland 9 a 12.—WHISKEY, hhds. 1st p. 514 a.— in bbls. 324 a 33.—Wool, Washed, Prime or Saxony Fleeces 45 a 50; American Full Blood, 38 a 42; three quarters do. 33 a 38; half do. 30 a 33; quarter do. 25 a 30; common 25 a 28. Unwashed, Prime or Saxony Fleeces, 25 a 30; American Full Blood, 22 a 25; three quarters do. 20 a 22; half do. 18 a 20; quarter do. 16 a 18; county, 16 a 18 Hemp, Russia, do. \$10 a 25; County, 16 a 18; dew-rotted, — a 7c. lb. water-rotted, 6 a 7c.—Feathers, 30 a 35;—Plaster Paris, per ton, — a 4.374, ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 33.00 a — high pig for forges, per ton 28.00 a 30.00; bar Sus. per ton, 75.00 a 55.00.—Prime Beef on the hoof, 5.00 a 5.50.—Oak wood, 4.00 a 4.50; Hickory, 4.50 a 5.00; Pine, 2.25.

CONTENTS OF THIS NUMBER.

Editorial; a Card; New Mulberry; Buffalo Berry Tree; Wheat turned into Cheat—Influence of Horticulture—Seeds of Fruit Trees, Forest Trees, &c.—Preserving Apples—Natural Wonders—Foreign Markets—Letter from Mr. Ogden on Cheat—Cheat exterminated from a Farm by thoroughly cleaning the Seed Wheat—On American Hemp—Carrying out Manure—Theoretical and Practical Farmer—Collecting Manure—Potatoes—Amber Beet or French Honey Beet—Memoir on the Strawberry, read before the Horticultural Society of Charleston, by the President, Judge William Johnson—Cultivation of Annuals by Cuttings—Horticulture of Venice—Experiment in Horticulture—Culture of the Carnation—Silk—Germination of Seeds—Milliner's Boxes—Laying Plants—Raising Water in Spain—Improvement in the Manufacture of Flour—Picking Cotton—Management of Swine at the South—Advertisements—Prices Current of Country Produce in the Baltimore Market.

The American Farmer,

Edited by GIDEON B. SMITH, is issued every Friday.

TERMS.

1. Price five dollars per annum: due at the middle of each year of subscription, provided that no balance of a former year remain unpaid.

2. The manner of payment which is preferable to any other for distant subscribers, is REMITTANCE BY MAIL OF CURRENT BANK NOTES; and to obviate all objection to this mode, the publisher assumes the risk.

3. Subscriptions are always charged BY THE YEAR, and never for a shorter term. When once sent to a subscriber, the paper will not be discontinued (except at the discretion of the publisher) without a special order, on receipt of which, a discontinuance will be entered, to take effect AT THE END of the current year of subscription.

4. PRICE OF ADVERTISING.—One dollar per square, and in the same proportion for more than a square, or more than one insertion.

Printed by J. D. TOY, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, NOVEMBER 30, 1832.

OAK LEAVES.—Now is the time for collecting leaves for manure, and we would earnestly recommend those who have heretofore neglected it to make a trial. Leaves may be converted into manure in various ways. They may be used as litter for horses, cattle and hogs in stables and yards, for which purpose there is nothing better. They absorb the urine of the animals, and this serves the double purpose of saving that valuable fertilizer and also of securing a degree of moisture necessary to the speedy fermentation of the leaves. Those who have never seen this would scarcely imagine the quantity of manure secured by it. The leaves also improve the quality of cow manure, by loosening its texture and inducing a more lively fermentation, and it is thus rendered fit for use sooner than without them. When used as litter in horse stables they save straw and add as much to the bulk of manure as straw does. In hog pens they are very valuable, as they keep the hogs warm and clean, and are converted into manure in immense quantities.

Besides this mode of converting leaves into manure, another may be resorted to upon a much larger scale. They may be raked up in the woods, and thrown into convenient heaps, with a layer of earth three or four inches thick alternately with a layer of leaves a foot thick, the top layer being earth, and thus left to ferment, when they can be carted upon the land when wanted. This of course would be the work of infernal hands and boys and girls, and of able hands at idle times.

Many suppose, that by thus taking the leaves from the woods, they would impoverish the soil of their woodlands; but this is a mistake. The leaves rot on the surface and lose nearly all their fertilizing matter by evaporation, by the washing of rains &c. hence the fertility of woodlands increases very slowly if at all. Indeed it is very questionable if cleared lands are more fertile now than they were a hundred years ago—those we mean which have never been cleared;—if not what has become of the vegetable matter deposited by the leaves during a hundred seasons? It has been washed away by rains and evaporated; we may, therefore, save it by gathering the leaves and converting them into manure as above, without fear of injuring our woodlands by the process.

CORN.

Baltimore Post Office, }
No. 24th, 1832. }

MR. SMITH:

I send to the American Farmer office, as worthy of a place in that valuable agricultural repository, two stalks of corn, one bearing seven the other five ears, grown on the farm of L. Cottman, Esq. Somerset County, Md. They are the produce of two hills, in each of which there grew besides, three stalks, all yielding three ears seven inches in length. These are not a rarity with Mr. Cottman, as more might have been found to equal, and even surpass them.—But what is still more remarkable, his crop, averaging 1200 barrels a year, is made on lands, the greater part of which yielding nearly as above, although cultivated biennially for upwards of thirty years without any other assistance [that is without manure] than that of nature. Yours, &c. C. T. MADDOX.

We are much indebted to Mr. Maddox for the stalks of corn mentioned above. The corn is the deep yellow variety. We doubt whether more than two or three good ears on a stalk of this kind of corn, is of any advantage. What is gained in number is lost in size of ears and produce of grain. The dwarf corn of the northern states often yields three to five good ears; but we never expect to see better corn crops of the tall varieties, than are yielded by two

ears on a stalk. Mr. Cottman certainly possesses an extraordinary soil for corn. We are partially acquainted with the lands in his neighborhood, but are unable to attribute their particular adaptation to corn to any peculiar quality in them. We judge, therefore, that his success must be attributed to his system of following every alternate year; which we are led to infer is his practice, by the omission of Mr. Maddox to state that he cultivates any other crop on the ground in those years when he does not raise corn.—We very much doubt, however, whether even this system would be eligible in even a moiety of corn lands. The cultivation of any one crop for a great length of time, even with biennial fallowing, must, we should conceive, ultimately ruin the generality of lands. There is one circumstance to which Mr. Cottman probably owes much of his success with this system; which is, the very luxuriant growth of wild grass that immediately succeeds the crop of corn; this being ploughed in, yields a considerable portion of manure. But even this must ultimately fail, or all our notions of such matters are fallacious. We have always entertained the opinion that a perpetual carrying off without bringing any thing on, must ultimately produce exhaustion; and unless we admit the soundness of the proposition, that plants derive their principal nourishment from the atmosphere, we see no way by which these old notions of ours can be controverted. But if this be admitted—if it be true that plants do derive their nourishment from the atmosphere—to what cause are we to attribute the exhaustion of soils, of which we have so many melancholy instances throughout the middle and southern states? If the crop is nourished by the atmosphere, the soil would of course continue the same, under the severest system of cropping to the end of time. There is only one way in which we can deem the principle of atmospheric nutriment at all plausible, and that is the volatilization of the fertilizing matter of the soil immediately under cultivation, and the absorption of the vapor by the leaves of the plants. In this way the plants may derive their nourishment from the atmosphere; but then the atmosphere derives the fertilizing matter so directly from the soil immediately around the plant, that the effect as to exhausting the soil is the same as it would be if the nourishment were taken up by the roots of the plants,—according to the old fashioned notion which we are so unfashionable as to entertain.

(From the New York Commercial Advertiser.)

PLANTERS' GUIDE.—G. Thorburn & Sons have published an American edition of the valuable work under this title by Sir Henry Stuart, of which we have frequently spoken, and which has been much sought for by gentlemen living in the country. The American publishers are entitled to the thanks of our agriculturists for bringing out the work, in a style not inferior to the English copy, either in paper, typography, or engraving. The art of producing real landscapes has been cultivated by the author, with a success beyond that of any who preceded him. The mode of removing trees by the transplanting machine, is explained and illustrated in the work, which is a complete treatise on the subject; containing an account of numerous experiments made by the author on his own estates, and attended with entire success. Until the experiments of Sir Henry Stuart, few, if any, arboriculturists, dared venture upon the transplantation of other than small trees or shrubs.—But Sir Henry went to work about twelve years since, and commenced removing and planting trees of any and every size he chose; and by this course, in fact anticipated half a century in the growth of the trees of his park. When he commenced the work of improvement, his park, composing one hundred and twenty acres, of various soils, contained only sixty or seventy trees. But in the years 1820 and 21, by the aid of his transplanting machine, he added to his domain seven hundred, which were scattered singly, or ar-

ranged in clumps and masses of different kinds, giving to the whole a rich and woody appearance. The great success which attended the labors of Sir Henry, prompted his friends to request the publication of his theory; and the result was the present work, in which the author has treated of the whole subject of arboriculture and landscape gardening, in a very lucid and satisfactory manner; and the result bids fair to revolutionize the whole system. Indeed, the artificial system, which prevailed in the days of Evelyn; and even when Shenstone wrote his delightful essay upon the subject, has long since been yielding to the more natural; and the treatise of Sir Henry Stuart bids fair to bring back the art to the simplest copies of nature. We are of course aware that the transplantation of trees in connection with landscape gardening, cannot now, and will not be for a long time, prosecuted in this country, as extensively and expensively also, as it is now done in England. But there is still sufficient wealth, and a sufficient disposition to improve, to accomplish much in this way, and the cultivation of true taste upon the subject, is an object of no little importance. Every gentleman owning grounds, and every farmer in good circumstances, has occasion to plant more or less trees every year; and it is well that the best system should be known to all, that the money or time expended in such improvements for convenience and ornament, should be applied to the best advantage. Every city corporation has grounds to ornament; and when it is found that they can with as much safety plant trees already grown, and look out upon their beauty with their own eyes, and enjoy their grateful shadows themselves, just as well as to plant mere saplings for the pleasure of posterity thirty or forty years hence, they will of course direct their labors differently. There are grounds in this city which need the attention of a scientific arboriculturist, among which are the Park, and the Washington Parade Ground. Let them be planted upon the theory of Sir Henry Stuart, and the expense, which would not be great, would not cause a murmur from the citizens. Our country towns and villages, likewise, which have been swept bare, and left to blister in the blazing sun, by the relentless hostilities which the first settlers of every district are sure to wage indiscriminately against every thing green coming in their way, need to attend to this subject. In one word, it is a matter of general interest, in every part of the country where towns and villages, and country seats, have been built; for the preservation of trees has been almost the last thing thought of, and we do therefore most heartily thank the Messrs. Thorburns for bringing out this book, with its plates, in such elegant style—a work which they have had the enterprise to undertake, when the booksellers dared not venture upon it. In Europe we know it was received as a work of very high importance. Sir Walter Scott reviewed it at great length, in two numbers of the Quarterly; and Professor Wilson, of Edinburgh, wrote one of his most fascinating and instructive essays upon it, which about two years since was copied into this paper from Blackwood's Magazine.

[The above work is for sale at the office of the American Farmer, and will be noticed more particularly hereafter.]

FOREIGN MARKETS.

LIVERPOOL COTTON MARKET.

Friday, Oct. 19.—The demand for cotton during the week has been pretty general; but from the quantity offering being increased, the middling and fair qualities of Uplands and Mobiles may be bought at a little lower. The sales of the week including 1000 bales American, taken on speculation, amount to 14,870 bags. Import 13,257.

LONDON MARKETS, Oct. 19.

Rice.—By public sales this day 3827 bags rice sold at full prices, good Bengal 16s a 16s 6d Madras at 14s.

AGRICULTURE.

(From the Genesee Farmer.)

AN ADDRESS

Delivered Sept. 29, 1892, before the Horticultural and Agricultural Societies of Monroe County, by E. S. MARSH, M. D.

Gentlemen of the Horticultural and Agricultural Societies:

The occasion that has convened this assemblage at this time, offers to a philosophic and well-informed mind, a rich fountain for intellectual gratification.—Horticulture is justly ranked among the noblest of primitive arts. Instituted alike for the rational gratification and sustenance of mankind, it is presented to our regard in a two-fold point of attraction, not easily resisted, even by the most unlettered disciple of rusticity. While to the man of refined taste, here is an allurement, strong and ennobling, where he may indulge his heart, by contributing to the physical necessities of himself and his fellow beings. We said a rational, and might have added, the most rational gratification of the human mind, as it is through nature we are taught to behold nature's God. The mind cannot comprehend, by a single effort, an infinity of perfection; but from created things that excite our admiration, we are easily and insensibly led to adore that creative wisdom, that has ordered all things for the happiness and well being of human intelligences. Enlightened horticulture is undoubtedly the most attractive science that engages the attention. We usually associate with it, affluence and ease of thought and action, which renders society agreeable and happy, and an absence of intense selfish cares about worldly aggrandizement, that narrow and limit the understanding.

A fine garden, a fine orchard, excite invariably pleasurable emotions in the breast of all. We sometimes envy because rivalry is easy, and that is among the stimulants to go and do likewise. More commonly, we enjoy with the possessor, a real pleasure that the easy labor of his head and hands has been bountifully rewarded. Not the least happy feature in the character of this science is, that it recommends itself alike to all, without distinction of sex or condition.—The poorest peasant is seldom without his little flower garden, with a few choice fruit trees, that yield for their culture the same rich reward to gladden his heart, as the symmetrical and stately array of costly herbage, in the extensive one of his affluent neighbor. The poor widow has also her garden, to which is attached a sacredness that renders violation next to sacrilege. It seems in fact her *next best* to him, of whom she has been deprived by death, as from it is often to be derived her solace, and the sustenance of those that Providence has committed to her care.—The association of the kitchen and the garden is very ancient, and this brotherhood cannot be violated without great detriment to both parties. No poverty could long be endured in our land, that is too abject to comprise in its extent, the small patrimony of a kitchen garden.

By the term horticulture, is embraced, its whole management, whether for fruit, culinary vegetables or flowers, or the whole combined. It will therefore easily be perceived, that generalizing alone, can be adapted to times and circumstances like the present.

Be fruitful, multiply, and replenish the earth, and subdue it, is a command from the pen of inspiration, making it a religious obligation, as well as a duty we owe ourselves and society. The contemplation of man in a state of nature, was doubtless the cause of this emanation from divine wisdom, as it is conceded generally that the resources of happiness keep pace with the increase of population, till a medium far removed from the savage state is attained, and many generations have yet to arrive and pass away before this is accomplished.

The benefits resulting from associations of this kind, have been abundantly manifested, by the rapid improvement of these arts of life, wherever they have existed. And who among ourselves, but has already felt his hands strengthened, and a resolution to put forth more vigorous exertions in culture and improvement, in consequence of a unanimity of sentiment and action? The natural result of possessing and performing many things in common with others, where, as in agriculture and horticulture, there is no drawback or cause for secular jealousy, is to produce harmony and good order among men; and this effect has already become conspicuous to those who have attended the three exhibitions of this society.

It was organized in 1830, but two years since, by a few friends to good gardening, who sincerely desired that a general improvement for the benefit of all, might be speedily made, and who were conscious that in no other manner, could this object be as certainly and effectually accomplished, as by concerted action.

Their first exhibition, though but a miniature of the second, fully verified their most sanguine expectations, and delighted a large concourse of citizens and strangers, who were eager to witness the effect of what then appeared a premature display of nature's good gifts. Not a little cheered by their success, most of the members made preparations for a second autumnal exhibition of fruits and flowers, by cultivating with care such choice varieties as their means could procure.

The second was held at the Arcade, in this village, on the 30th of last September, and "the result was truly gratifying to every friend of horticulture."—About fifty varieties of grapes were exhibited, many of which, in the language of one whose observations have extended over the principal countries of Europe, "might vie successfully with European productions." In addition, were all the fruits of the season in the greatest perfection. Many beautiful flowers, and flourishing green house plants, that told eloquently of the assistance they had received, and the solicitude with which their doings had been watched, by the ladies of the society. And as if to keep them perpetually reminded of their sanction, when by themselves, the tribute of a splendid decoration with flowers, of a long, well furnished table, was added by their hands. The only drawback and mortification to all then present, was the exclusion of the fair workers of this attraction; and, having been present, I will hazard the opinion, that the greatest amount of chagrin was with the partakers, and not those that were rejected. The effect which might with great justice and propriety have been intended, was a total change of the exclusive and anti-republican doctrine for the more generous one of equal rights.

In the interior of the annual meetings, specimens of early and mammoth productions, have been constantly flowing in, as well for market as early exhibition, and many well merited premiums have been awarded, by a committee chosen for the purpose.—These, although trifling, are certainly among the many inducements to try experiments with fruits and flowers, and the knowledge thus obtained has hitherto repaid with four-fold the little disbursements to obtain it.

The exhibition for this day could not have been foreseen of course; yet, the generous sentiments of the public generally towards the society, were such as induced flattering anticipations. The result for to-day is truly gratifying in every respect. We look back to the exertions that have produced this prosperity, with feelings very different from those experienced by the artist or mechanic, on the completion of a fine picture or valuable piece of machinery. They have spent days and nights of bodily and mental fatigue, and if now abundantly rewarded for their labor, they contemplate the past many times with a melancholy horror. On the contrary, we have carefully noted the first buddings of a fine fruit tree, removed, with delicate care, weeds and obstructions to

free vegetation, and anticipated from the first the gratifying issue of our agreeable task. During the whole course of vegetation, we have guarded the products of our easy labor with pleasurable solicitude. Confiding entirely in nature's resources to perfect her own works, we could have no misgivings or anxiety as to the event.

While the result of every other calling is problematical in a greater or lesser degree, as they are dependent upon fortuitous circumstances that cannot be foreseen, Agriculture and Horticulture offer their votaries a never failing reward, that in the main is not exuberant or immoderate, but always satisfactory, and equivalent to compensate for all the toil and rational expenditure of labor and money. And even this reward is never the only inducement to cultivate the earth, as it becomes somewhat insignificant to the unaffected lover of nature's simplicity, who seeks a freedom from the grosser cares and anxieties that agitate the mass of mankind, congregated in towns and cities. He is little a philosopher or a christian, whose piety does not receive an augmentation, and his reason an accession, in holding free converse with nature's bounteous gifts to man. As we remove him from these works of creative wisdom, we sever the strongest bonds of union, and close the broadest avenues to a Deity, that have ever been revealed for the happiness of his creatures.

To the ladies of our Society, it will not be deemed invidious to say, that their encouragement and sanction is indispensable to its prosperity. And while they impart the talismanic attraction to whatever their hands find to do, they can rest assured, the admiration elicited never stops short of its proper aim. It is indeed gratifying to be able to state that this, as well as many other useful and elegant arts of life, are receiving from them much greater attention than heretofore; and we may confidently anticipate the time, when their approbation or censure, shall exert its salutary influence upon the conduct of men, in all the diversified stations of society.

The reviving of Agricultural Societies, marks truly an interesting era in the history of New York.—Great regret to the practical and scientific farmer, was occasioned by their extinction. To such they were beacons, that directed them to better results in all their pursuits. At this interesting period, they should devote much of their leisure in contemplating this subject, and avail themselves of every avenue to enlighten their minds, which reading, reflection and social interchanges of sentiment present. The babbling matter of politics, that are ever distracting this republic, is ignominious indeed, contrasted with the interests of agriculture. When the man of sense has determined who shall receive his suffrage, his time should no longer be devoted to litigious discussions of party, men and measures.

The feverish and inflammatory periodicals, that apparently compose the literature of our country, are designed by money making and hiring proprietors, to act upon the passions and credulity of farmers. Much do they desire their cause should be heartily espoused by you, as their reward depends in a good degree upon the commotion they can create, among the honest and confiding hearts in the country.

It is much to be hoped by good men, that this newspaper passion, that has overspread the republic, and levied by far the heaviest contribution paid by honest industry, will give place to a love of substantial literature, that in the end proves a permanent benefit. Agricultural reading is daily becoming more popular, and is designed, as it should, to supplant entirely with husbandmen, the transitory and unsatisfying political excitement with which we are perpetually molested.

Agriculturists have very naturally been divided into three classes, the theoretical, the practical, and the practical scientific farmer, or, one that unites the science with the practice.

It is easy to see the position a good farmer desires to hold in this classification. To be a theoretical one

alone, few would have confidence in our sayings, but rather would they wait till experience confirmed or falsified what we taught. Even theories, however, have their uses, as allurements to investigations, and many times they serve as general landmarks to important discoveries in the arts and sciences. The practical farmer alone, and without science, is in many respects but a machine. He pursues the beaten track of his father, with a heedlessness that many times ends in success to be sure; but if per chance the soil and climate differs, or requires different seed and culture to be prolific, he reaps a stunted reward for his labor, and is generally the victim of his own, or the cornice of others, in applying a remedy. He is willing to abide the decision of any theorist or make any experiment that can be suggested. The unteachableness of this class is many times lamentable indeed, and degenerates into a kind of obstinacy. The more such men, of whatever denomination, need intelligence, the greater is the task of instruction found to be, as they are indifferent in proportion to their ignorance. Efforts to change their sentiments are thrown away, and we can only hope for reform in the generation that is to follow them.

The scientific agriculturist, or one who unites the study with the practice of husbandry, combines the excellencies of the others without their defects. It is to him that agriculture has been indebted for the many improvements that have facilitated labor, and rendered it highly productive—that has made the science what it now is, and given it a rank second to none in dignity and importance. He possesses an inquiring mind—is minutely observing—has a talent for reflection and reasoning, by tracing effects to their causes. He calls to his aid agricultural chemistry and philosophy as far as he is able, with all the phenomena that occur under his observation. He avails himself of every avenue that is presented for acquiring knowledge, by reading and deducing correct inferences from facts. His history might easily be extended, but it is unnecessary, as it is written in legible characters upon the garden and premises of every good farmer in the country.

It has been suggested that the evening associations common in all neighborhoods, might easily be rendered subservient to the purposes of agricultural improvement. Instead of the ordinary debating meetings, call them agricultural associations, or what you please; and in place of debating questions about which very little is or need be known, by the members, choose topics wholly pertaining to the science of farming, as a man is supposed to know most concerning his own business; and if he does not, he needs information the more, and should either seek it or change his calling at once.

In this manner an advantage may be derived, wholly unknown in these societies. Perhaps some better method than the common one, of debating, could be adopted—as reading, by appointment, short treatises on agriculture, horticulture, or subjects intimately connected therewith, or perhaps informally discussing them, after they have been propounded a sufficient time for mature reflection. This would impart a spirit and animation to these gatherings, to which they have hitherto been strangers.

The state of Agriculture in this country, is yet in its infancy, and requires much fostering by its friends and guardians to obtain for it that enlightened maturity and perfection, which in this region it seems eminently destined to arrive at.

Let it then become a study as well as a business. The laws of the vegetable creation, or vegetable physiology, are of far greater consequence to the husbandman than all other laws put together. Their study very soon becomes a subject of enticing curiosity, and the student, before he is fairly initiated, finds in himself the germs of philosophy rapidly springing into existence.

The seed composed of the rudiments of the future plant, the germ and cotyledons, is committed to the

earth, the proper maternal bosom of vegetables, which serves as a pabulum from whence its nutriment is to be drawn. The germination is accomplished by the combined agencies of the earth, moisture, heat and air; with some supposed auxiliaries, the necessity for which is not clearly understood. Among them are electricity and light, which are found to hasten vegetation, although not indispensable to produce it.

Surrounded by a moist air, and in contact with the earth at the proper temperature, (from 40° to 60°) the pores of the outer rind gradually dilate, by imbibing moisture, which is received into the substance of the cotyledons. They also swell till many times their inclosure is ruptured.

The time during which the different seeds remain in this state before they begin to vegetate, is exceedingly various. Wheat will vegetate, under favorable circumstances, in one day, and partly requires six weeks. The peach and almond remain in the earth a whole year, and cornus florida two years; but it is well known that stone fruits in general may be made to start much sooner by breaking their enclosures.—The ascending and descending portions of the germ, called the radicle and the herb, as they emerge from the seed, choose *instinctively*, as is thought by many botanists, their direction. For this law of vegetable economy seems utterly unaccountable by any other hypothesis.

If we invert the seed a hundred times, the same tenacity or tendency is maintained, till it either succeeds or perishes in the undertaking. The root sustains the same relation to the plant, that the mouth and stomach do to man. They are in fact the locomotives of plants, as they go in search of nutriment. As the distance from their mouths to the stem increases, their numbers are increased, and by continual multiplication, they subserve the increasing demands of the plants, or more properly, perpetuate its life and growth.

The herb, or ascending portion, emerges from its grave, many times, with its ancestral remains as pioneer, till, tired of its burthen, or grown too large to be trammelled in any manner, it casts it off as useless.—This portion of a vegetable is much more complex in anatomical structure than the root, as it seems especially designed to perform the office of perpetuating its species. Without giving a general analysis of vegetables, which ought to be studied and well understood, we may mention that the parts common to all plants, are the vessels or channels through which the fluids are circulated. There are, of these, seven sorts, that perform different offices in carrying on the functions of vegetables, viz: the sap vessels, commencing at the extremities of the roots, and carrying the nutritive materials for its use. The proper vessels, which convey the juices peculiar to the individual plant, sometimes denominated its blood; this is sweet, acid, astrigent or mucilaginous: it is often milky or red, yellow or orange color, &c. &c. The air vessels exist in both stems and leaves, and are by far the largest in plants. Their direction is spirally, communicating freely with each other. In leaves, their office is supposed to be analogous to the lungs of animals, as they imbibe and expel a gas.

The vessels of secretion and excretion, of absorption and the medullary vessels, have each distinctive offices in elaborating and disposing of the juices and excrementitious matter of vegetables.

But by far the most important, as well as interesting part of this study, is the phenomena observed in reproducing its own species. If we remove the fertilizing pollen, no seed will be produced. Cut away the anther on which this is found, or the style of the pistil that conveys it to the germ, and the same result follows. Remove the stamens from one flower and add the pollen from those of another, of the same species, but a different variety, and an intermediate one is obtained that partakes of the nature of both but resembles neither.

Tie a piece of fine gauze or paper about the tassel

of the Indian corn as soon as it emerges, or before the silk of the ear makes its appearance, excluding the dust or pollen from reaching it, and allow no neighboring communication from abroad, and no corn will be produced. Collect the pollen from the tassel of red corn, and sprinkle it upon the silk of the white, and exclude its own by means of gauze or otherwise, and the result is white and red, or the two colors combined.

The agency of the tassel is here clearly demonstrated. It will have been observed by farmers, that the highest and most prominent ears of corn are best filled and largest, while many below and much concealed by leaves, have the rudiments of hundreds of blighted seeds, with a few that are perfect at the lower end of the ear. It is also known that every seed puts forth the filamentous substance called silk, of which the use is evidently that of fertilizing the seed by conveying to it the pollen from the tassel.

The experiment of freely exposing every ear, by removing the leaves and obstructions to the access of this dust and by supplying it by artificial means in a few cases, would confirm or overthrow this hypothesis, which is certainly a matter of much consideration. If the silk in these ears is not put forth, which has been asserted, the failure is in some measure explained. But I would inquire, in answer, if blights have not been known when the silk is fully developed; and whether it is possible for a portion to supply the whole, although not all protruded, if an abundance of matter is furnished?

But this subject cannot further be pursued at present. The study of vegetable physiology, is to the farmer and gardener, what science is to art. Either, without the other, cannot be interesting or useful.—The exalted state of agriculture in the United Kingdom, is owing to the deep interest men of intellectual attainments have exhibited for its prosperity. Their example, as well as pens, have equally contributed to this happy result, till the enlightened husbandman of Great Britain, from the nature and tendency of his vocation, ranks higher among the intelligent and good, than he whose life is devoted to the law or state.

To this rank they are destined in our own happy land, or in any where virtue and philanthropy are the ruling principles of the human heart. But, while we eulogize the enlightened tiller of the soil, we cannot forget that, as in every other calling in life, there is yet a great drawback upon indiscriminate panegyric. A sentiment had gained great currency in this country, not many years since, that the very stupid and ignorant class that are always found, should become agriculturists. That they sometimes become useful as hewers, diggers and drawers, is undoubted; and in this capacity, laborers is the proper appellation. But experience has proved them incapable of managing judiciously any description of farms.—In this land of equal rights, and I had almost added, equal farms, every neighborhood has examples of poor husbandry, the picture of which is so odious, that you will not at this time be presented with it.

In England, a long and well directed apprenticeship is considered indispensable for a man to prosecute this business successfully. The science of husbandry is not neglected in this preparation. Chemistry and botany, agricultural reading and geology, constitute his studies, as much as anatomy and materia medica those of the physician. Politics and law are alike, distinct professions, with which he has little time and less inclination to interfere.

May we not hope, that the time is not far distant, when our farmers shall become scientific men as a class, when their prejudices shall have vanished, and the standard of agricultural attainments, in these United States shall be inferior to that of no other country of the globe?

The culture of the grape is again respectfully presented to the members of these Societies, not with a view of offering any thing new or untold, but rather to keep them perpetually reminded that they are the

6. Dwarf White. Stem, 4th altitude, green and smooth; leaves, large, dull green; flower, 2d magnitude, very double, pure white; central petals curled, exterior ones revolute.

7. Virgin. Stem, 2d altitude, green; leaves, large, deep green; flower, 1st magnitude, central petals curled; exterior petals rose tinted; flowers, sometimes only semidouble.

8. La Pudeur. Stem, 2d altitude, green and smooth; leaves, deep green; flower, 2d magnitude, very double, well formed, convex; petals, strong, imbricated, pure white; splendid flower.

9. Anemone. Stem, 3d altitude, light green, smooth; flower, 3d magnitude, yellowish white; central petals, small and convergent.

10. Mademoiselle. Stem, 3d altitude, smooth, purplish; leaves, short; flower, 3d magnitude, very double; petals, curled, revolute, at first pure white, but soon changing to a deep rose color.

11. Duchess of Ragusa. Stem, 2d altitude, green, tinted with purple, smooth; leaves, deep green; flowers, 2d magnitude, very double, at first white, afterwards rose-colored, veined with purple.

12. Roseate. 13. White, with green centre. 14. Split-petalled. 15. Ivory. 16. Small flowered. 17. Coquet. 18. Mignon. 19. Small leaved. 20. Purple tinted. 21. Milk white. 22. Purple stemmed. 23. Half-quilled.

II. LILAC. Flores Lilacini.

24. Single Lilac. Stem, 1st altitude, green and smooth; leaves, small; flower, 1st magnitude, single, plane, roseate; claw of petals, yellow.

25. Godefroy. Large Lilac. Stem, 2d altitude, green, slightly pubescent; leaves, deep green; flower, 1st magnitude, very double, pure lilac; petals, curled and fringed; superb variety.

26. Dark Lilac. Differs from the preceding in the greater length of its leaves, and the deeper tint of the flower not quite so large as the Godefroy.

27. Spotted. Stem, 3d altitude, green and smooth; leaves, small; flowers, 3d magnitude, double, almost globular; petals, revolute, sprinkled with purple on a ground of lilac.

28. Lilas tendre. Stem, 2d altitude, green and smooth, leaves, small; flower, 3d magnitude, double, delicate lilac; central petals curled.

III. ROSE COLORED. Flores Rosi.

29. Belle Rose. Madame Soutif. Stem, 4th altitude, green, a little bronzed, very smooth; leaves, large; flower, 1st magnitude, very double and well formed; petals, large, entire, most of them containing two smaller ones. This variety was obtained from seed by Madame Soutif, wife of a French horticulturist.

30. Curled Rose. Stem, 2d altitude, green, but purple at the extremities; leaves, deep green; flower, 2d magnitude, deep rose color; exterior petals large, flat, rounded at the end; central ones small and curled.

31. Woolly-stalked. Stem, 2d altitude, brownish green, pubescent; leaves, deep green; flowers, 2d magnitude, double, regular, deep rose with a violet tint. Each petal contains two smaller ones.

32. Marie Antoinette. Stem, 2d altitude, purplish, smooth; leaves, deep shining green; flower, 3d magnitude, double, well formed; petals, rose-colored, with white edges, causing the whole flower to appear striped and variegated.

33. Large Rose. Stem, 1st altitude, light green, smooth; leaves, small; flower, 1st magnitude, double, bright rose color.

34. Albertine. Stem, 1st altitude, green and smooth; leaves, shining green; flower, 1st magnitude, very double, convex, well formed, rose, tinted with lilac, and margined with white; extremity of the petals shaped like the bowl of a spoon.

35. Hardy. Stem, 2d altitude, glaucous; leaves, small, elliptical; flower, 1st magnitude, double, well

formed; petals, spoon shaped, color clear rose, edged with white. Named after M. Hardy, gardener at the Luxembourg.

36. Split-petalled. Stem, green; leaves, shining; flower, 2d magnitude, double, convex; petals, curled, and slit into two or three divisions.

37. Duchess of Angoulême. Stem, 1st altitude, purple, smooth; leaves, oval, with large teeth; flower, 2d magnitude, double, convex, of a delicate rose color; petals of the centre, spoon shaped; exterior ones flat, veined with purple.

38. Eucharis. Stem, 3d altitude, smooth, green; leaves, deep green; flower, 3d magnitude, double, tinted with violet; petals, concave, in beautiful disorder. Flowers freely and in clusters.

39. Belle Henrietta. Stem, 1st altitude, green, smooth; leaves, large; flowers, small, but very double and well formed, of a delicate tint; petals, concave, with white claw.

40. Mordoré. Stem, 2d altitude, smooth, light green; leaves, small; flower, 2d magnitude, color, murrey ground with tints of rose.

41. Belle Thérèse. Stem, 2d altitude, smooth, purple; leaves, small, deep dull green; flower, 2d magnitude, rich color; petals, curled, with yellow claws.

42. Moutan. Stem, 2d altitude, green; leaves, very large; flower, 1st magnitude, bright rose color in the centre, shaded off delicately towards the circumference; petals, large, plane, arranged with freedom. This splendid flower, the finest of the rose-colored, is a miniature edition of the superb poony, after which it is named. It was raised from seed by Noisette of Paris, in 1825.

43. Ecoffe. Stem, 2d altitude, glaucous, smooth; leaves with large teeth; flower, 2d magnitude, deep rose color, with a tint of violet, very double, well formed; exterior petals tubular, with only a small opening at the end; central petals, cornet shaped.—Named after M. Ecoffe, gardener to the King at Sèvres.

44. Cockade. 45. Capricieuse. 46. Large petalled. 47. Dwarf Rose.
(To be continued.)

(From the Genesee Farmer.)

THE FLOWER GARDEN.

As remarked in last week's Farmer, this month is of the utmost importance to farmers and gardeners, and no opportunity should be allowed to pass which is favorable for gardening operations. Every vacant piece of ground should be turned up in ridges; or left in a level manner in as rough a state as possible; and when either a kitchen or flower garden is to be formed, there is no season more proper for executing the work. Many choice flowers cannot be planted at any other season with so much advantage as in the month of November. This is decidedly the case with hyacinths, tulips, lilies, jonquils, crocus, ranunculus, anemones, &c. &c.; and as no tribe of plants are more ornamental in the vernal months, nor require less trouble in their cultivation, we hope to see them displaying their unrivaled beauties in every garden. As we promised at the commencement of our connection with the "Genesee Farmer," to dedicate a portion of its pages to the improvement of gardening, as an art of design and taste, we shall now offer a few remarks on the formation of a flower garden; and as we expect to see many rising up around us, we infer those observations and hints may be generally acceptable.

As respects the site, exposure and soil best adapted for a flower garden, whether large or small, we consider, where practicable, the former should be south-east or southwest of the house; in exposure and aspect, a south exposure is preferable, in general; but if part is facing either the southeast or east, a prolonged display of flowers will be obtained from the same species. South, southeast or east, are the aspects

most advantageous to the growth of flowers; and, possessing these different exposures; the bloom of a garden may be protracted some weeks beyond the time it would be preserved under a single aspect."

The surface should be naturally low, nor rendered damp and gloomy by high trees, walls or build- ings. The soil should be moderately light and mellow, but not of a wet, retentive nature.—Most hardy herbaceous flowers and ornamental shrubs, will succeed in a soil of common good qualities, although in parterres, where the finer flowers are cultivated, a variety would be desirable. The depth should be two spades, or about eighteen inches deep, and the whole well enriched with very rotten cow dung, or the leaves of trees (not resinous) perfectly decomposed, which is decidedly the best manures for plants in general.

In the formation of a flower garden, much will depend on the taste and fancy of the owner. As flower gardens are objects of pleasure, the principle which must serve as a guide in laying them out must be taste, consequently they will vary according to taste, or according to extent or other contingent circumstances. The shape, if the garden is small, may be of some regular figure, as a circle, oval, octagon, crescent, &c. but a variety of figures may (according to first rate garden artists) be indulged in without incurring censure, provided the figures be graceful, and not in any one place too complicated. An oval is a figure that generally pleases, on account of the continuity of its outlines; next, if extensive, a circle; next, perhaps, a segment, in form of a half moon, or the larger segments of an oval. But hearts, diamonds, triangles or squares, if small, seldom please. A simple parallelogram, divided into beds running lengthwise, will always please, or the larger segment of an oval, with beds running parallel to its outer margin, is also always very pleasing to the eye.

In laying out the area, the figures may be of various shapes, but on no account should they be regularly distributed over the surface, and should invariably be accommodated to the turns of the walks, and so fitted to their situations relatively to each other as not to admit of being removed or changed in position without deranging the effect which would deprive it of expression or character. In general cases it ought to form a whole, which may be accomplished in various ways, accommodating to surrounding circumstances, but always preserving an outline of definite character; that is, a well arranged whole in opposition to something that is in a state of chaos and confusion.—A flower garden will always have a more pleasing effect when composed of curved lines, than if bounded by straight lines and angles; curved walks, also, are handsomer than straight. Flower beds form a less handsome flower garden, when placed over the surface without arrangement and connection, than when the whole are composed into one general figure.

Gardening, as an art of taste and design, although it may be varied considerably, is based on just and fixed principles; and "those principles," says the ingenious Mr. LUDLOW, "as an art contributing to the beauty of painting; and as an art contributing to the convenience and comfort of man, it is directed by those of fitness and utility, and must be guided by unity of expression as to the whole or general effect, and by the connection and co-operation of the component parts."—As a guide to any individual laying out a pleasure garden, whether large or small, the following rules, if strictly followed, will prevent him from falling into glaring errors, or deviating very widely from the basis on which its principles are founded.

1. No bed or group ought to be so placed but that

*Although those aspects are decidedly the best, it does not follow that, when they are not to be obtained, a flower garden cannot be made with advantage; this is by no means the case. Many plants will grow luxuriantly and flower freely under any aspect. The only point requisite is to adapt the proper plants to their respective situations.

it should fit into the precise situation, so that if moved either way the effect of the whole would be deranged.

2. When the area is of an irregular shape, regular figures should be very sparingly introduced.

3. All figures should be long and narrow, rather than round and lumpy, which produces most effect with least ground, and is more convenient for attending the flowers.

4. Groups should be placed near the walks, but, when they extend into the centre, they should be in clusters, and not sprinkled over regularly with circles, ovals, hearts and diamonds, without any connection among themselves or the objects that surround them.

(From the Southern Agriculturist.)

CULTURE OF FLOWERS.

West Point, St. Simon's Island, (Geo.) April, 1832.

Ma. Editor:

December, January and February, are prime seasons to plant all kinds of evergreens, shrubbery, hardy roses, and herbaceous plants in general, and this includes a great variety of choice ornamentals. Every thing which grows either from cuttings, or roots, may be put out at this season of the year. March, April and May, follow for all annual and perennial seeds or young plants, taking care, however, of late frosts, as this visiter makes destruction in a very short time. Hydrangias, hibiscus, geraniums, and all kinds of vines and creepers, may be planted, which will afford a fine collection to the florist, and allow him to prepare a rich variety for the season. The different kinds of wallflower, and double gilliflower, can be put in now, and delicate plants which require a warm sun. June, July and August are the season to thin out carefully, transplant, variegated the borders and beds, this should be done on favorable days, such as cloudy, and after showers of rain. All the varieties of the camelia japonica, can be set out at this period, either in the open air, or in jars, or boxes; they must be shaded and watered regularly: if planted in pond earth, or in blue clay, it will facilitate their growth materially. September, October and November, are the time for all bulbous flowers, all kinds of poppies, either Persian or European, which are entirely different; all biennials which will embrace a long catalogue, larkspurs of all sorts, ladies in the green, pinks, and all the class of the sweetwilliams, both native and foreign, should be planted with great care now. I find it all important to take up hyacinths and tulips, and separate them carefully, otherwise they will inevitably degenerate; this can be done with safety in April or May. Should any of your readers make this experiment, I request they would communicate their opinion and the result. This brings the year to a close—health may be secured, idleness avoided, and the heart invited to the beauties of nature, and to nature's God.

Tulips are very rare here and require great care, they should be placed in a compost of sand and swamp earth mixed well; they will not succeed if planted in sandy soil alone or left all summer in the ground. I should be much pleased to obtain all information on the culture of this splendid plant myself. Dahlias are another rich and beautiful order of plants, there are a great variety of them both double and single. They grow well here, either from the seed or tubers planted in April, they do not require to be removed from their station, and will continue for years; they should be well dressed in the winter with good rotted manure. The variegated marvel of Peru is a brilliant perennial; grows either from the seeds or roots, and reproduces annually. The dwarf trumpet flower is also very showy, and grows either from cuttings or roots. All roses which produce perfect seeds should be carefully collected, separated from the apple and planted in a warm situation. Every seed which comes up will produce a different rose; this is the only

way to raise varieties; they require a long time to germinate, and will consequently try the patience of the florist or amateur. The Champney's rose, a delicate and beautiful variety was produced from the seed of the daily rose. All sorts of China asters are exceedingly showy, and fine colored, they grow from the seeds, and should be sheltered from the mid-day sun; April is the time to plant them as they are annuals. The varieties of the crysanthemum are very hardy, and give great ornament to a flower garden, as they bloom early, and display their rich colors, when more delicate bellies are unable to appear.

The varieties of a primrose are very pretty, and will stand our winter, they grow from the seeds and should be planted in January or February. The zinnias harmonize very handsomely with them, and should be placed in their society; one is a bright yellow, and the other a light pink. Red and white wallflowers are superb, and highly fragrant; they must be planted either in March or in the fall. It is a biennial, and with care, will bloom for a long time; I have it now in all its pride and glory.

Place a strong post with a cross-piece fifteen or twenty feet high in some convenient or conspicuous part of the garden, or in sight of the dwelling house, and plant around, roots of the native crimson woodbine, Cherokee rose, small pink multiflora rose, large English woodbine, Carolina yellow jessamine, seeds of the crimson cypress vine, morning glories, and traveller's joy, and add below some roots of the blue and pink tradescantia, and you will have a most gaudy and brilliant collection of colors which the eye of a stoic, or a redhot fanatic would be compelled to admire. They will all bloom at the same time in April, and attract the notice of the humming birds in numbers, whose bright plumage and rapid movements cannot fail to please. I have found the flower garden a great source of pleasure, health, and exercise; every morning some new favorite gaily attired, is ready to attract my notice or please my eye. Since December, I have had a regular succession of flowers, and so they will continue all the year until Jack-frost blows his freezing breath upon them, and consigns them to the tomb. A very small spot of ground well arranged, will contain some hundreds of plants, the trouble will be an amusement and the expense a mere trifle.

Our forests, pine-barrens, and prairies, all abound in a great variety of beautiful native plants, many of them vying with any of the foreign—they all improve by culture:—among this number, the fringe-tree, snow-drop-tree, sensitive briar, pink and crimson honeysuckle, well merit prominent places. They can all be propagated either from seeds or roots. I had last summer several most beautiful sensitive plants, which were universally admired by all who saw them. There are also a great number of beautiful flags and lilies which abound along the shady and fertile banks of the Altamaha; the white pancratium is very curious and fragrant, bulbous, and improves considerably by culture, they are now in bloom. The yellow flag (*cana flaccida*) is bright and shining in its colour, and displays itself in July. I sent some roots to you. The sweet smelling shrub is one of our most choice native plants, its perfume almost rivals the rose of Damascus; they grow either from the seed or roots, planted in a moist place, or in blue swamp-clay, and kept well watered. We have on this island three varieties of tradescantia, pink, pale-blue and dark purple—the white I have never seen, the others I have now in full costume;—they may be raised either from seed or roots. The clematis is also a pretty creeper, now in flower, grows from seed or roots, planted in the fall. The yellow jessamine of Carolina, if cultivated with care, and planted in blue-clay, will flower twice in the year.

The above is but a feeble effort to comply with your request, I hope it may induce others to continue the subject, for it is one which contains much to entertain both mind and body. I have only glanced at a few plants;—to have been more minute, would have

occupied too much of your work. I have also used the names which are most common and best known. Should it afford your readers any amusement, or beguile one tedious moment, my object and wish will then be fully accomplished.

THOMAS FULLER HAZZARD.

(From the New York Farmer.)

CONSTRUCTION OF HOT-BEDS.

Ma. Editor:

Middlesex, August 19, 1832.

The hot-bed culture, when we enter into all its niceties, is attended with more trouble and expense than our farmers generally are willing to incur, but it may be made eminently useful in bringing forward many plants much earlier than can be done in the open air; and when used as a seed-bed only, it is attended with but little expense or trouble. I am, therefore, induced to give some direction for its preparation and management.

1st. The frame may be made of inch board, unplanned, four foot square, six inches deep in front, and ten on the back side.

2d. The sash should be made exactly to fit the frame, the two side pieces, the back and the slats in the middle, should be of inch and a half stuff, and the front of inch stuff; the outside pieces about three inches wide, the slat an inch and a half wide, and placed seven inches apart, so as to take in 7 by 9 glass, no cross pieces, as these would impede the rains and prevent their running off freely; the glass should be laid in grooves, lapping at the lower edge, like shingles, and be puttied like a window sash.

3d. Take from the dunghill, promiscuously, litter and a sufficient stable dung to form a bed about four feet eight inches square, and two feet high; this dung should be put in a heap, somewhat like a haystack, and lay two or four days near the place you intend to make your hot-bed. About the 20th of March, set your stakes two feet above ground, four feet eight inches square; then begin to lay on your dung and litter, mixing them well, and occasionally beating them down, so as to make it firm and level as may be; carry it to the top of the stakes at the corners that is two feet high, and immediately put on your frame and cover it with the sash; in about two days the heat will come on, and the sash may be taken off and about three inches of dirt put in the frame and the sash immediately replaced. The sash should be raised on the back part to let off the hot steam; in three or four days the earth in the frame will be warm and dry enough to receive the seed, when it should be levelled and sown. The sash should be kept raised on warm days about two or three inches on the back side. In this frame may be sown Battersea and early York cabbage, Cayenne peppers, melons, cucumbers, Lima beans, lettuce, or any other vegetable you wish to bring forward early. These plants may be removed into the open air about the first of May; they will want water once or twice a week, the water should be kept in bottles in the hot-beds for twenty-four hours before it is used. Two beds of this kind may be made if you wish to go into the culture of the sweet potato, the only difference is in the frame, which, instead of being six and ten inches deep, should be ten and fourteen in such a frame; plant your sweet potatoes about two inches apart. About the first of May the vines will have nearly filled the frame, you may then throw up some hills in the open ground about a foot high, three feet apart, in the row, and the rows four feet apart, cut the vines out of the frame about three inches from the ground, divide the vines into pieces of twelve inches each, in each of the hills plant four of these pieces of vine, leaving the leaves above ground, and covering the stem from one to two inches deep; they will soon take root, and by November following will fill the ground literally to overflowing with large potatoes. To keep these potatoes, scatter them among your Irish potatoes, in the proportion of two to ten bushels, and treat them ex-

actly as you would Irish potatoes, and they will keep as well and as long, but if suffered to come in contact with one another, or if kept too warm and close, they will certainly spoil. There are many varieties of the sweet potato, the jam and brimstone are the best.—The red ones are the earliest and poorest; I believe this variety may be cultivated in the open air, to do this they should be put in the ground the 20th of April; they will not make their appearance above ground until about the middle of May, if frost occurs after this they may be deluged by a little swingle tow, placed over the hills, on cold nights. The sweet potatoes should be taken from the hot-bed and planted, two in a hill, after the vines are cut and planted as above directed; the sash and frame may then be removed and put away until the March following, the dung spread or removed, and the ground dug and planted as if no hot-bed had been there.

Yours, &c.

R. A. WILLIAMS.

(From the New England Farmer.)

BEAUTIFUL FLOWER.

Among the new annuals introduced into this vicinity, the *Crepis Barabata*, or *Tolpis Barabata*, a native of waste places, especially near the sea, in the south of France, Italy and the Levant, has proved a great acquisition. It is an uncommonly hardy annual, (not having been in the least effected by the frost of this month) and is of the easiest culture. Should be sown in the beginning of April, and the plants thinned out to 18 inches or two feet apart, which commence flowering about the first of July, and continue filled with numerous and beautiful flowers, about an inch in diameter, till October. It has a compound flower, the rays of which are lively light yellow, finely serrated, and contrasted with the disc, where a number of the central florets of a dark purplish chocolate hue, form a very brilliant velvet-like spot, or eye, in the middle, which constitutes the chief beauty of the flower. It is of a spreading decumbent growth, reaching from the height of one to two feet, forming a perfect mass of foliage and brilliant flowers from July to October. We have grown a large bed of it the present season from seed presented by Mr. Charles Lawrence of Salem.

[The Editor of the American Farmer has had the *Tolpis barabata* in his garden for several years, and can testify to the truth of the above description. Its only faults are its excessive luxuriance, over abundance of flowers, and extreme indifference as to weeds, soil, culture or care. Seeds of it are for sale at the seed store attached to the office of the American Farmer.]

NEW PLAN OF STICKING PEAS.—Procure a number of slim poles about 5 feet long, and drive them into the ground at the distance of the three or four yards. Pass a small line along the poles, taking a turn round each, within three inches of the ground; raise the next turn three inches, and so on in succession, till you have attained the common height to which the peas rise. The tendrils of the peas seize and twist round these lines, and they are supported in a more attractive and profitable manner than they are by the common stakes. When spread regularly along the lines, they have a fine circulation of air, more advantage from sunshine, and pods can be pulled at all times without injuring the straw, [vines or haulm.] This mode is so cheap, simple, and possesses so many advantages, that it is likely to be soon generally adopted.—*Scotsman* [Edinburgh.]

Benjamin Thompson, Esq. of Hingham, has sent to the office of the New England Farmer, a sunflower, measuring in circumference three feet four inches. Its diameter in a right line is between thirteen and fourteen inches, and the diameter across the face of the flower is sixteen inches.

RURAL ECONOMY.

(From the Daily National Republican.)

PURE WATER.

MR. EDITOR:

Cincinnati, October 15.

Will you publish for the benefit of your readers and the public generally, the following receipt for the procuring of pure drinking water. Among the means of preserving health, at this fearful period, pure water may not be considered the least; and though it is generally known to the people of the west, that alum will clear muddy water, the fact, that the mixing about a common sized table spoonful of this salt finely powdered with a barrel of water, will free it of all impurities, I apprehend, is either not known by them, or they have not convinced themselves of this important truth. I hazard this opinion, because I do not know any but my own family in this city, who enjoy the delightful beverage of river water, freed from all impurities, and transparent as crystal. Not being selfish, I have, therefore, taken the liberty of offering to the public, with your leave, the means of participating in this salutary beverage; merely adding, that it is the result of a series of experiments instituted at Paris a few years ago for the express purpose of ascertaining the best and most certain mode of procuring pure water.

"Into a wooden cask, set upright upon a stand, place two faucets, one near the bottom, the other about 6 inches above it. Fill the cask with water, and add powdered alum in the proportion of less than half a drachm to the gallon, which is to be stirred into the water, and allowed 24 hours to settle. Should any acidity be perceived, an equal quantity of subcarbonate of soda will neutralize it. For use, draw the water from the upper faucet; and always be careful to wash the barrel well before refilling it."

If, as has been conjectured in Europe, the prevailing epidemic is "entirely telluric, and created by mephitic vapors, which are formed in the earth, and first communicated to the water," (and the conjecture is certainly favored by the deranged condition of the digestive functions, which most generally precedes the severe attack of cholera,) you will see in this, a strong argument for the immediate and general adoption of the means here recommended for freeing the water used for drink, at least, of the animal or vegetable poisons with which it may abound. P.

(From the New York Farmer.)

STRANGLES AND YELLOW WATER.

MR. EDITOR:

August 17, 1832.

Some days ago, one of my neighbors called to visit me. He complained bitterly of having lost a horse a few weeks before, worth 60 or 80 dollars. The horse had the strangles, he said, and could swallow no hay nor other food; he had doctored assiduously, was told to give him some ley; and accordingly prepared some white ley, and gave the horse a pint, very strong.—After which the horse could neither eat nor drink, and died in a few days. He was sure the disorder was incurable. I remarked that I thought it was the medicine that killed him, and not the disorder; that a pint of caustic ley would kill the soundest horse; that if he had taken one ounce of ipecacuanha, poured into it two quarts of warm but not boiling water, and taken half a pint of this tea and put into a bucket of common water and given the horse to drink four times a day, a half pint each time, then taken a quarter of an ounce of gum gamboge and half an ounce of aloes, added flour and water till it was of the consistency of dough, divided into four pills, and given night and morning, I had no doubt the horse would have got well. That I had known this disorder to be cured frequently by this treatment.

This man also complained of losing a fine horse,

about a year ago, by yellow water (or jaundice,) and was perfectly sure that this disorder was incurable. I told him that I thought it was as curable as the strangles; that he ought to take the *New York Farmer*, or some other agricultural paper, and not listen to every wind of doctrine in treating his horses and cattle. He remarked that he could not afford it. On inquiry it appeared that the two horses were worth about 150 dollars, which would have supplied him with the paper for forty or fifty years, and communicated much useful information, besides that I thought he was losing a dollar to save a penny.

Most of our farriers and books on farriery kill more than they cure; that a paper judiciously conducted was much more to be depended on, as its errors, if any, were open to correction. Yours, CARLO.

(From the New England Farmer.)

HONEY.

MR. FESSENDEN:

Braintree, Sept. 17, 1832.

Agreeable to your request, I send you an account of my method of obtaining honey under glass, as exhibited at the horticultural rooms on Saturday last. My hives are made of boards 12 inches square on the bottom, and about 8 inches in height, or about half the size of common hives. In the back of each of my hives I put glass, with a wooden slide to cover it on the top. I make three holes about an inch in diameter, which I stop with corks. After the bees begin to work I procure such glasses as I choose, say large tumblers, or any bell or other shaped, being open at one end only, placing sticks across them inside for the bees to attach their comb to. I then pull the corks from the hive, and place over the holes the glasses, inverted, and cover them over with another hive; the back part of my apiary is opened by wooden doors. By this simple arrangement, I amuse myself and friends when I choose, (though rather to the annoyance of the bees) by opening the door and slipping the slide from the glass when I can observe them at their work. When the glasses are filled or nearly so, early in the morning I take the top off, stop the holes again, and what few bees remain in the glasses soon return to the general family; in this manner you will observe the bees are not destroyed. The whole process is pleasing, profitable, and instructive of the best morals, industry, and prudence.

The mode mentioned above, I am aware is familiar to many, but perhaps will be new and useful to some.

Yours, with respect, B. V. FRENCH.

MISCELLANEOUS.

(From the Genesee Farmer.)

THE SEASON.

There is something rather singular in regard to the quantity of water upon the surface, and in the earth, the present season, which we should be glad to have explained by those more familiar with the subject than ourselves. The streams in this vicinity, during summer, were not as low as in the majority of years, and at this time are swelling with our moderate autumnal rains; and yet, many of the wells are lower than they have been known to have been for the last twenty years.

[*Vice versa* with us. Throughout the state of Maryland, and we believe the middle states generally, the streams have been uncommonly low nearly all summer. Even after the commencement of the rainy season in August, (previous to which we had a severe drought,) and to the present time, our water courses have not furnished water enough to keep the mills going half the time.—But we have heard no complaint of a want of water in the wells.—Ed. Am. Farmer.]

Prices Current in New York, November 24.

Beeswax, yellow 18 a 20. Cotton, New Orleans. 11 1/2 a. 13 1/2; Upland, 10 1/2 a. 12 1/2; Alabama, 11 a 12 1/2. — Cotton Bagging, Hemp 13 a 21 1/2; Flax 13 a 14 1/2; Flax, American, 7 a 8. — Flaxseed, 7 bush. clean, rough 12.50 a 13; Flour, N. York, bbl. 6.25 a —; — Canal, 6.87 a 6.56; Rht. Hvd-st, 6.75 a —; Rht. city mills, 6.75 a 6.87; country, 6.31 a 6.50; Alexandria, 6.62 a 6.75; Fredericksburg, 6.25 a —; Petersg. new, a. 6.25; — Rye Flour, 4.75 a —; Indian Meal, per bbl. 3.87 a 4.00 per bhd. 18.00 a —; Grain, Wheat, North, 1.25 a —; Vir; 1.25 a 1.30; Rye, North, 85 a 90; Corn, Yel. Nor. 58 a 60; Barley, 31 a —; Oats, Sth. and North, 45 a 49; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 5.00; Provisions, Beef, mess 1.42 a 1.50; prime 5.12 1/2 a 5.25; cargo — a —; Lard, 8 1/2 a 9; — Pork, mess, bbl. 13.00 a 1.450; prime 10.75 a 12.00.

RED ANTWERP RASPBERRY BUSHES.

For sale at the American Farmer Office and Seed Store. Price, 12 1/2 cents each; \$1.25 per dozen; or \$8 per hundred.

I. I. HITCHCOCK.

STRAW CUTTERS, CORN SHELLERS, &c.

SINCLAIR & MOORE, offer for sale a variety of kinds of Straw Cutters, the Cylindrical of the following sizes and prices, viz. 11 inch box at \$27. 14 inch at \$45. 16 inch at \$55. 20 inch at \$75. The smallest (price \$27) will cut 300 bushels of straw one inch long per day, and is precisely the kind spoken of in the following note, addressed us by the proprietor of the American Farmer:

GREENHOUSE: Baltimore, October 2, 1892.

John G. Eliot, for whom we bought one of your Straw Cutters last year, writes me this, under date of Sept. 20, 1892:

"The Cutting Knife answers well. I would not be without it for the price of two."

I have much pleasure in communicating the above, for I think the instrument well deserves the compliment thus bestowed on it. Yours, truly,

SINCLAIR & MOORE, Balt. I. I. HITCHCOCK.

The second size has cut, in the vicinity of Baltimore, seven hundred bushels per day, with manual power.—The third and fourth are capable of much more, particularly with horse or water power. These machines may now be expected to go into more general use, as they can be furnished at a more moderate price.

Also circular knife self-feeding boxes at \$20. Common Dutch box at \$7.50, and smaller size at \$5.

CORN SHELLERS, with vertical cast iron wheels, very durable and easily kept in order, which shell with great ease and rapidly, price \$20. CAST STEEL AXES, with a general assortment of AGRICULTURAL IMPLEMENTS and GARDEN SEEDS.

PATENT CYLINDRICAL STRAW CUTTER.

The subscriber would inform the public, that in the year of 1816, he commenced making improvements in Straw Cutting Machines, and paid his undivided attention to that one object for five years; that in 1821 he obtained a patent from the United States for his IMPROVED CYLINDRICAL STRAW CUTTER, and has been manufacturing them ever since; during which time he has added some valuable improvements to it, and turned out nearly five hundred machines which, have given general, and he believes universal satisfaction to his customers, and that he still keeps a full supply of them on hand of various sizes and prices, viz.

\$25.00, 27.00, \$40, \$45, \$50, and \$55.

Extra knives, 3.50, 3.50, 5, 5, 6, and 10. The two first named are too small for farming purposes, but suitable for a person that keeps but two or three horses or cows. These machines are adapted to the cutting of all kinds of forage, straight or tangled, coarse or fine, corn stalks, &c. and are simple and durable in their construction.

Determined as he is to be unremitting in his exertions, he hopes to maintain his high reputation, he has gained for these machines, and to offer them as low as any one can. He also keeps constantly on hand, a general assortment of IMPROVED PLOUGHS, and every other implement in the Agricultural line, which are manufactured with care, and of good materials, and will be afforded on pleasing terms.

J. S. EASTMAN,

Nov. 9. Pratt, between Hanover and Charles streets.

PLANTATION FOR SALE.

The Subscriber offers for sale the plantation whereon he lately resided in Sassafras Neck, Cecil county, Maryland, one mile below Rose Hill, the seat of General Forman, and about fifteen miles below the mouth of the Chesapeake and Delaware Canal. It contains eight hundred and eight acres, of which about five hundred and fifty acres are arable, and for the most part in a high state of cultivation. The wood and timber abundant and fine. The quality of the soil is first rate, and little or none of the tract is waste. Its form is an oblong square, and is bounded on the South by Sassafras river, and on the north by Ponds creek, and may be said to be enclosed on two sides by water. On the tract is Ordinary Point, one of the most celebrated points for boat shooting in Maryland, especially for canvass backs. The situation is high, and commands a fine view of Turkey Point and the head waters of the Chesapeake bay, and is about mid-way between the Philadelphia, Brandywine and Baltimore markets, and has convenient landings for shipping the crops to either market. For the growth of Indian corn, wheat, timothy and clover, this farm is not surpassed on the Eastern Shore of Maryland, and as such offers the highest inducements to the farmer, the grazier, and the sportsman.

The improvements are a comfortable dwelling house, and other suitable buildings, a young apple and peach orchard, in full bearing, and a choice collection of other fruits. It will be sold low and the terms of payment made easy. To the capitalist it is an object for an investment, as the rents received will average per annum seven per cent. on the sum that would command it.

For further particulars apply to Levin Gage, Esq. Elkton; James Rogers, Esq. New Castle, or to William Cooke, Esq. Baltimore. Captain Craddock, residing on the place, will show it to persons desiring to see it.

O. HORSEY,

Sept. 7. St. Petersburg, Frederick Co. Maryland

BOTANIC GARDEN AND NURSERY.

The subscriber, proprietor of the above establishment, informs his friends and the public, generally, that he has on hand an extensive assortment of Greenhouse Plants, Trees, Ornamental Shrubs, Bulbous Roots, &c. and also various collections of American seeds for exportation. Those wishing to send abroad would do well, by applying shortly, as this is the best time for making selections. He also offers for sale many new Perennial Plants, that stand the winter with scarce any protection.

N. B. Gardens neatly taken care of, and Bouquets furnished at the shortest notice, on terms as reasonable as by any in his line of business. Apply at the corner of Pine and Lexington streets, adjoining the Pottery.

JOHN FEAST.

REMOVAL.

SAMUEL FEAST, NURSERY MAN AND FLORIST, has removed the stock in his line, from his late residence on the Frederick road to Chatsworth, on the Franklin road, adjoining the dwelling of Mr. Thomas Edmondson. He returns thanks to his patrons and the public generally for their support, and hopes from his attention to business, he will merit their attention. He has for sale at present, a large collection of FRUIT AND ORNAMENTAL TREES, SHRUBS, FLOWER AND BULBOUS ROOTS, GREEN-HOUSE PLANTS, Garden and China ROSES, many new varieties. — Raspberries, Strawberries, Asparagus Roots, double Dahlias, Peonies, &c.

The CHINA ROSES are in due order—they consist of yellow, white, purple, scarlet, kurtsia and common tea; Myrcophylla do, Striata, Noisettes of sorts, Nepalmis, Bourbon, Bourasaltina, red and white; Multiflora, red, white and purple; new white China, and Master Burk, with various other sorts.

The PEACH TREES consist of 50 sorts, all of choice fruit; English Elms for planting in the street, of large size, with various other articles too numerous to mention, which he offers for sale on accommodating terms.

Nov. 16.—21.

WANTED,

At the American Farmer Office and Seed Store, all kinds of GRASS SEED, CLOVER SEED, pure SEED GRAIN, and choice Domestic Animals. Apply to

I. I. HITCHCOCK.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—There is scarcely any change in any article of produce. Our quotations embrace the rates at which sales have been made since our last report. The wagon price of Howard street flour continues at \$6.12 1/2. A few barrels of Susquehanna flour have been received, and some small sales made of fine at \$6.12; superfine is held at \$6.25.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a —.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 278 hds. Md.; and 10 hds. Ohio—total 288 hds.

Flour.—best white wheat family, \$6.75 a 7.25; super Howard-street, 6.12 1/2 a 6.25; city Mills, 6.00 a 6.12; city mills extra 6.12 a 6.25; — CORN MEAL bbl. 3.50; — GRAIN, bested wheat, 1.17 a 1.20; white do. 1.20 a 1.25; — CORN, old, 76 a 50, new 62 a 68; — RYE, 11 a 13 — OATS, 40 a 43.—Beans, 75 a 80.—Peas, 65 a 70.—CLOVER-SEED 7.00 a 7.50.—TIMOTHY, — a — ORCHARDS.—GRASS 2.00 a 2.25.—Tall Meadow Oat Grass 2.00 a 2.50.—Herd's, 75 a 87 1/2.—Lucerne — a 37 1/2 lb.—BARLEY.—FLAXSEED 1.50 a 1.62.—COTTON, Va. 8 a 11 1/2—Lou 9 a 13—Alab. 8 a 12.—Tenn. 8 a 11; N. Car. 8 a 12.—Upland 9 a 12.—WHISKY. hds. 1st p. 31 1/2 a —; in bbls. 33 a 34.—Wool. Washed, Prime or Saxony Fleeced 45 a 50; American Full Blood, 38 a 42; three quarters do. 38 a 38; half do. 30 a 33; quarter do. 28 a 30; common 25 a 28. Unwashed, Prime or Saxony Fleeced, 25 a 30; American Full Blood, 22 a 25; three quarters do. 20 a 22; half do. 18 a 20; quarter do. 16 a 18; common, 16 a 18 Hemp, Russia, ton, \$210 a 225; Country, dew-rotted, 6 a 7e. lb. water-rotted, 7 a 8e.—Feathers, 38 a 38; —Plaster Paris, per ton, 4.87 1/2, ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 35.00 a — high pig for forges, per ton 28.00 a 30.00; bar Sus. per ton, 35.00 a 35.00.—Prime Beef on the hoof, 5.00 a 5.50.—Oak wood, 4.00 a 4.50; Hickory, 5.50 a 6.00; Pine, 2.25.

CONTENTS OF THIS NUMBER.

Editorial; Oak Leaves for Manure; On Growing Corn.—Notice of the "Planter's Guide"; Foreign Markets.—An Address delivered Sept. 29, 1892, before the Horticultural and Agricultural Societies of Monroe County, by E. S. Marsh, M.D.—Culture of the Irish Potato.—Preparation of Seed Wheat.—Largest Potato.—Russian Rice.—Description of the most Splendid Varieties of the Dahlia.—On the Construction of a Flower Garden.—Culture of Flowers.—Construction of Hot-beds.—Beautiful Flower.—New Plan of Sticking Peas.—To Clear River Water.—Cure for Strangles and Yellow Water in Horses.—To obtain Honey in Glasses.—The Season.—Prices, Current of Country Produce in the New York and Baltimore Markets.—Advertisements.

The American Farmer,

Edited by GIDEON B. SMITH, is issued every Friday.

TERMS.

1. Price five dollars per annum; due at the middle of each year of subscription, provided that no balance of a former year remain unpaid.

2. The manner of payment which is preferable to any other for distant subscribers, is REMITTANCE BY MAIL OF CURRENT BANK NOTES; and to obviate all objection to this mode, the publisher assumes the risk.

3. Subscriptions are always charged by the YEAR, and never for a shorter term. When once sent to a subscriber, the paper will not be discontinued (except at the discretion of the publisher) without a special order, on receipt of which, a discontinuance will be entered, to take effect at the END of the current year of subscription.

4. PRICE OF ADVERTISING.—One dollar per square, and in the same proportion for more than a square, or more than one insertion.

5. DIRECTION OF LETTERS.—Address all BUSINESS letters concerning the Farmer, the store, or the agency, to the proprietor, "I. Irvine Hitchcock, Baltimore, Md."

Printed by J. D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, DECEMBER 7, 1832.

Our agricultural friends will find some excellent lessons in the address of the President of the Fredericksburg Agricultural Society, James M. Garnett, Esq., in the present number of the Farmer. Like a good husbandman, he first undertakes the extermination of weeds and other wild and pestiferous growths in the mental field before he attempts putting in seed for a crop. It is particularly desirable, that those farmers who are continually complaining of "bad times for farmers," give this address an attentive perusal. It is some where said, that those who call themselves unfortunate, when closely examined, will generally be found to be unwise; and it is too much the case with farmers. They expect from a slovenly indolent management, the munificent returns due only to the most wise and energetic system; and failing in this expectation, they rail out against the "bad times for farmers." But we must not anticipate the good precepts of the address to which it is our object to call attention, and shall only now say further, that our farmers cannot spend an evening more profitably than in the perusal of Mr. Garnett's production.

MARYLAND HORTICULTURAL SOCIETY.—The progress made in organizing a Horticultural Society in this city, leads us to expect the speedy accomplishment of this desirable object. About fifty members have already been registered, and the following officers were elected on Tuesday, the 28th ult.

ISAAC MCKIM, Esq., *President*.

HENRY THOMPSON,

B. I. COHEN,

DAVID HOFFMAN,

W. H. FREEMAN, Esq., *Treasurer*.

H. F. DICKHUT, *Corresponding Secretary*.

I. I. HITCHCOCK, *Recording Secretary*.

Another Vice-President and a council of 24 members are to be elected at the next meeting, (Tuesday, 12th inst. at 4, P. M.) which will complete the organization of the Society.

If respectability of names can give a society claims upon public attention, then will the Maryland Horticultural Society succeed to the utmost extent of the expectations of its projectors, in the objects of its creation. We have seen the good effects of such societies in other cities, and in other countries, and indulge the hope of soon witnessing them in our own city. It has been supposed that such a society could only act efficiently, by carrying on the practical operations of horticulture itself—by owning and cultivating an experimental garden, &c.; but we differ widely from those who entertain such an opinion. Horticultural societies act most efficiently in keeping aloof from all the practical operations of horticulture; and acting as the munificent patron, not the rival competitor of practical horticulturists. It is believed that nothing can so effectually dampen the ardour of gardeners, as the rivalry of a horticultural society's garden—where extensive means are at command; where costly experiments for the production of trifling results can be entered into; and where a community is to bear the expense. Such a society by the expenditure of a dollar, may produce a cauliflower worth fifty cents; and this would bear away the prize from the practical gardener, who not only has a cauliflower to produce, but a living to make out of the profits of it. But a horticultural society may legitimately connect with their main object the cultivation of a garden, for the embellishment of the city, and as a place of wholesome recreation for the citizens; and this would be one of the most beneficent institutions that a city can possess. This, however, is but a secondary object of a horticultural society's attention, and ought never to be entertained till the means of the society shall enable it to

accomplish it after administering all necessary stimuli to the immediate object of its institution, viz. the general improvement of horticulture. That the Society just organised will pursue this course, and that it will accomplish this great object, we most ardently hope.

FINE TURNIP.—We have now in our office a white flat turnip, from the farm of C. C. Harper, Esq., which measures 27½ inches in circumference, and weighs 54 lbs.

BOTS IN HORSES.—The editor of the Bucks county (Penn.) Republican, on republishing Dr. Hadden's last letter on the subject of bots in horses, makes the following remarks:—

The article on the subject of bots in horses, is well worthy the attention of farmers and others interested in the welfare of that noble animal. The doctrine inculcated in the article is a novel one, being utterly at variance with the received opinions on the subject; but, strange as it may appear, we have the authority of gentlemen, every way competent to decide, that it is correct. We may hereafter, if it be deemed advisable, say more on this subject, and produce testimony sufficient to convince the most sceptical.

AN OLD MAXIM CONTRADICTION.—Sir John Sinclair's Code of Agriculture, contains the following observations on an aphorism, which has been the text of many an agricultural discourse. "It has long been considered as an uncontrovertible proposition, and approaching to the nature of an axiom, that whoever could make two ears of corn, or two blades of grass to grow upon a spot, where only one grew before, would deserve better of mankind, and do more essential service to his country, than the whole race of politicians put together.

"There never was a greater instance of sophistry, than this doctrine of Swift's who seems not to have been at all aware of the immense benefit, conferred upon agriculture, by a judicious system of civil policy. In fact, the prosperity of agriculture depends upon the politician. The better and the more equitable the civil policy of a country, the more perfect will its agriculture become. Those politicians and statesmen, therefore, who by removing every obstacle, and furnishing every proper encouragement to agriculture to promote its advancement, have a higher claim to the gratitude of mankind than those who have merely performed a secondary or practical part, which part they never could have performed at all, but under the protection of wise laws, regularly administered, and executed with impartiality and vigor."

THE NEW VACUUM SUGAR.—The grains of this beautiful sugar are true and well-formed crystals. They do not melt so readily as common sugar,—a circumstance that induces some inaccurate observers to imagine that this sugar is not so sweet as common muscovada. The taste is just that of fine candy. The advantage is, that this sugar is far less hygroscopic than common raw sugar, and suffers less from a moist atmosphere. The apparatus used in its preparation is a modification of the late Mr. Howard's apparatus for boiling sugar in *vacuo*; with strainers of copper-plates pierced with minute holes, or several folds of wire-gauze for clarifying the syrup. The process is, immediately on crushing the canes, to heat lime, and seum the juice, which, while warm, is forced through the strainer, from which it runs into the boilers. These are provided with air-tight covers, the tops of which are connected by tubes with a large air-pump, wrought by a steam-engine. The steam, as generated, is thus drawn off, and the boiling is carried on at a temperature far below the boiling point of sugar. When sufficiently concentrated, the syrup is crystallized, and, when consolidated, it is carried to the curing house, the temperature of which is kept up by steam pipes running into it. This process saves

much sugar, for the heating being low, little or no molasses are formed, and a large quantity of sugar is obtained, which, in the old process, is converted into molasses. This apparatus was adopted by sugar-growers in Demerara, on the suggestion of a distinguished philosopher in Liverpool. The experiment has succeeded admirably; and the sugar bears a premium in the Liverpool market, especially when required for coffee.

NATURAL CURIOSITY.—I have a heifer, two years old last June, which I raised, and which has never been out of my possession. On the 17th of April last, 1832, I found it necessary to have her milked, and from that time to the 6th of the present month (September,) she has given from six to eight quarts of milk a day, and has given from the milk from five to six pounds of butter a week. On the 16th inst. she for the first time produced a fine calf. The above facts may be of interest to agriculturists as well as the naturalist, and as such I communicate them.

Yours, &c.

A. BURNS.

Genoa Gazette.

(From the Richmond Whig.)

CURING TOBACCO BY STEAM.

MESSRS. EDITORS:

Charlotte, Nov. 20, 1832.

I saw a notice in one of your papers of a late date signed by the Messrs. Gwathmeys, recommending to the planters not to cure their tobacco by steam, stating that the steamed tobacco is becoming unfashionable. The principal objection alleged against it is its supposed greater liability to rot than tobacco cured in the old way. I really believe, Messrs. Editors, that this prejudice against flued (or steamed) tobacco, is founded in error. Most of the flued tobacco that has been sent to market from this section of the country, (as I understand,) has been prized in higher order than the planters generally prize their tobacco, from the general impression that a high order is preferred by the manufacturers—and if it has been found to be more difficult to keep, it may be attributed to that fact. But it would require a very fair experiment to convince any intelligent man that smoke is necessary for the preservation of tobacco—(the only difference between the flue method of curing and the old way, is the exclusion of smoke during the process of firing on the flue plan.)

If smoke be necessary, tobacco is the only plant, that requires such aid for its sound keeping. I think I may hazard the assertion that no medical plant is cured by fire and smoke. The heat of the sun, or the common temperature of the atmosphere in the shade, is usually sufficient to cure medical plants. The main object in curing a medical plant is to carry on the drying process fast enough to prevent decomposition, the chemical ingredients of the plant being generally found sufficient to preserve it after it is dried—and I have but little doubt that the saltpetre and oil in the tobacco plant are the principal and perhaps the only ingredients that preserve tobacco after it has been cured in the old way; and the only reason why the tobacco plant is not entirely cured in the sun, is that the leaf is so thick and contains so much evaporable matter that it would partially rot before it could be dried.—From the misnomer *steamed tobacco*. I presume that many of our mercantile friends are unacquainted with the flue method of curing, and may suppose that the tobacco undergoes some chemical change under the operation of steam, but no particle of steam enters the barn, the steam and smoke being carried out together, through an aperture in the open air.

We would request our mercantile friends not hastily to prejudice the flue system. Tobacco can be cured with so much less trouble, (and ultimately with so much less expense,) upon this plan, than in the old method, that it would be a great desideratum with the planter if the latter could be entirely substituted by the former.

PLANTER.

AGRICULTURE.

MR. SMITH: *Fredericksburg, Va. Nov. 27, 1832.*

Dear Sir,—At the late meeting of our Agricultural Society, the enclosed address from James M. Garnett Esq. the President, was read and a resolution, directing it to be forwarded to you with a request for its publication in your valuable paper, was unanimously adopted. Your compliance with their request will much oblige the Society.

Respectfully, your obedient servant,
CHARLES GOODWIN, Sec.

ADDRESS

To the Fredericksburg Agricultural Society.

BROTHER MEMBERS:

The desultory remarks which I am about to address to you being chiefly of the preceptive kind, I must beg you to believe that I offer them, not as a teacher of agriculture, but in virtue of the office wherein your friendly regards have so long retained me, and from which something of this kind is always expected. Let me also premise, that you must not consider these remarks so much the result of my own successful agricultural experience, as the bitter fruit of having often followed the bad example of but too many brother farmers and planters in neglecting to do what we know to be right: for, be it remembered, the learning gained by the bad consequences of leaving undone that which ought to be done, is often quite as salutary, as that which we acquire from the effects of doing what we ought to do. My offences as an agriculturist are chiefly those of omission; for many of which I might plead the excuse of other necessary occupations incompatible with that close, unremitted attention to farming operations which is so essential to success in all the pursuits of husbandry. Should this be rejected by the master workmen of our society, I shall throw myself on the sympathies of our brother procrastinators, and bunglers, in the confident belief that there is a phalanx of them, strong enough in numbers at least, (whether they chose to own it or not), to keep me in countenance. This, however, is a tender subject, and I will press it no farther at present. Let me rather endeavor to expose, with the hope of curing, some of those faults which we all commit in a greater or less degree. Among these I know none so common as the cry of "bad times for planters and farmers." Go where we will almost, complaints of this kind are so continually rung in our ears, that very many of our agricultural brethren seem to acquiesce in them, as if they were not only self-evident, but irremediable. They never for a moment appear to suspect that their jeremiads should be directed much oftener against themselves than the times. None, even of those who are capable of seeing the truth, of examining and probing to the bottom, this apparently incurable evil, have made the attempt,—at least in any such way, as to hold out a fair promise of success. They want either the moral courage, or the industry, or both, to expose—even the causes of the disease, much less will they attempt its removal. But there are many among us, who despond more from a belief that the difficulties we have to encounter, really grow out of the times, than from any want of energy to combat them, could they once be thoroughly convinced, that resistance would soon bring victory, and perseverance insure the continuance of all its blessings. To these, therefore, I shall chiefly address myself, in the confident hope of satisfying them, that the pursuits of agriculture under all their discouragements—both real and imaginary, may be very profitably followed, if a due regard be paid to all necessary appliances, as well as to the various circumstances of soil, climate, markets, and the proper adaptation to each, of the particular branch of husbandry to be followed. Tillage chiefly—in

some situations,—pasturage in others, or a combination of both, must be resorted to for income. Unless all this be done judiciously, and with unwearied perseverance, it will be vain to expect much success. But of what profession or vocation may we not truly make a similar remark? Is there any one, for example, in which a man can rationally hope to succeed, unless he will first acquire all the knowledge necessary to enable him to follow it;—unless he will next apply that knowledge with unremitting assiduity; and lastly, unless he will use with strict economy—all that he can honestly gain by their application? In all these important particulars agriculturists stand precisely on the same footing with the members of every other profession; and can no more hope to prosper in their business without pursuing the same means, than they can hope to reap without sowing, or to make money by beating the air. Wherein then, do they differ? the answer to this question, I think, will lead us very far towards discovering the chief causes of our agricultural depression,—so far, at least as these causes are of our own creating. It will be found, unless I am grossly deceived,—first, in the almost incredible want of theoretical and practical knowledge in most of those who become planters and farmers, when they begin to act as such. Secondly, in their total disregard of all the experiments, discoveries, and improvements that are almost daily making around them in every branch of husbandry. And lastly, in the utter carelessness with which they spend what they make, without the least comparison between income and expenditure,—indispensable as this manifestly is,—to guard against ruin. There is another cause which operates much more than would generally be imagined, to diminish, or rather to prevent the profits of husbandry. It is,—that many planters and farmers, either from utter ignorance or neglect of that cardinal principle in political economy—the division of labor,—divide their time and attention between husbandry, and other pursuits of a widely different character. Thus some become also merchants, some manufacturers, some speculators, and some horse racers, popularity hunters, in entire defiance of that wise old saw, that "when too many irons are in the fire some must burn." If it were possible for any of these classes of agriculturists who engage in such incompatible pursuits, to make money by tilling the soil, or by any other branches of husbandry,—then husbandry would be as far superior to every other pursuit—the object of which was to make money, as one thing could well be to another; for neither any previous knowledge, nor economy, nor professional skill, nor exclusive attention to it would be in the smallest degree necessary to insure success. Let us look at all the other professions and callings with which we have the least acquaintance, and ask ourselves, where is the solitary case of a man's making money in any one of them, without a considerable share of those preparatory acquirements, universally deemed essential to enable him to succeed? Is it not then, the extremity of infatuation to believe that agriculturists can do what no other professional men have ever yet done—that is,—to work skillfully without previous professional knowledge;—to work perseveringly in the midst of all the numerous failures which the want of this knowledge must inevitably occasion;—and to work profitably without uniform industry and economy? Yet, such are the impossibilities, which, it would seem, that many of our brethren expect to achieve, or their profession is to bear the whole blame, for every disappointment they encounter. A very little self-examination would set all this matter right; for it would be found that multitudes take up agriculture as a profession,—not because they prefer it,—not because they have all the necessary previous information;—but, because they can do nothing else; while more still, with all the presumptuous obstinacy of ignorance, live entirely self-satisfied as farmers and planters, merely because they make a little more money than they spend, by plodding on in

the same beaten road that the most uninformed of their profession have been travelling, as far back as their recollections enable them to count. While all other trades and callings are making daily improvements, these alone remain stationary as the earth itself. What wonder then ought it to be,—what just cause of complaint should it afford, that agriculture, as it is generally followed, appears to yield less profit, than almost any other pursuit? But even this opinion, although very general, has nothing better than conjecture to support it; for not one agriculturist in a hundred, ever keeps any such accounts as would enable him to tell with any degree of accuracy what his clear gains really are. When you add to these causes of failure the very general neglect of all the means afforded for improving the soil, it is perfectly demonstrable, that the fault is not in the profession itself, but chiefly, if not wholly in its members. Let me endeavor to point out a few more of the proofs to sustain this assertion. What a large proportion of our best informed agriculturists make little or no use of the abundant materials which most farms produce, for making that indispensable article—manure! How very few planters and farmers are ever seen carefully using for this purpose, all the offal of their wheat and corn crops,—the scourings of their ditches,—the rich mold of their woods,—the ashes of their fires, with all the other numerous substances capable of being converted into manure, simply by collecting them into a heap to ferment and rot? These sources are to be found on almost every farm, and would most amply repay, if judiciously used, all the labor bestowed on their application. This would constitute the whole cost; and so far these kinds of manure would be preferable to such as cost money also, which agriculturists cannot always command. I allude here principally to marl, lime, plaster of paris, and clover seed.

The first of these, which experience has ascertained to be the most lasting of all improvers of the soil, has been visible, for hundreds of years, to the eyes of all who have passed up and down the Rappahannock, almost in every place where the tide has left a perpendicular bank, especially on the south side, for many miles below this town, nearly to Portroyal; again, from a short distance below Tappahannock—nearly to the mouth of the river. Yet, even the proprietors of these apparently inexhaustible beds—with very few exceptions—have never spread so much as a shovel full on their much impoverished fields. To attempt the purchase of this most valuable substance for the purpose of improving our lands, would probably cover the buyer with inextinguishable ridicule for the remainder of his life. Here and there indeed, we may hear a few beginning to say,—“we have some thought of making an experiment with marl!”—just as if its efficacy was still a matter of doubt; although, if these skeptics would give themselves the trouble of consulting the most authentic records of agriculture, they would speedily be satisfied, that the effects of marl in augmenting the productive powers of most soils has been just as well known in other countries, for hundreds of years past, as the effects of any of those substances which have been universally acknowledged to do it, from the time of Trismegistus to the present day. They would learn too, by these records, another matter of no small importance, and that is,—to know certainly, without waiting twelve months for the result of an experiment,—that calcareous or shelly marl, (such as we find the Rappahannock marl to be,) will certainly suit all argillaceous or clayey soils; and that argillaceous or clayey marls are equally well adapted to dry, sandy soils. Acids,—of which common vinegar can most readily be had,—furnish good tests for every variety of marl, since all will effervesce briskly or feebly with acids, in proportion to the quantity of carbonate of lime which they contain, which may vary from 25 to 80 per cent. In argillaceous marls it is often much less, to ascertain the proportions with

sufficient accuracy for agricultural purposes, nothing is necessary, but to take a given weight when dry,—to immerse it in some acid, which will dissolve the calcareous part, and then to weigh the residue, after drying it, which will give the proportion of clay.

As to the use of plaster of paris or gypsum, more than half a century of experiments has hardly sufficed to establish it among us, to any considerable extent. Indeed, throughout a large portion of our state, the cultivators of the soil continue to be perfect idiots in regard to its imputed virtues. They do not, perhaps, carry their prejudices quite as far as some of Judge Peters' Dutch neighbours used to do, when he first used it in Pennsylvania, who turned a deaf ear to all his persuasions, for fear, as they alleged, of its attracting thunder upon their farms. Neither, probably, would they treat a present of plaster made to them for trial, as I have heard of one being once treated in this neighbourhood. The receiver, it is said, hung the bag up in a persimmon tree, by way of making such a memorial of his friend's excessive credulity, as conspicuous as possible. But thus it is, my friends, that *prejudice*, which is always, more or less, the growth of such secluded lives as agriculturists, more than any other men, generally lead, can keep us blind as bats to our best interests,—and immovably fixed in our early notions, of which we can give no better account, than that "we have always entertained them." And thus it must forever remain, unless we will constantly strive to liberalize our minds by reading, by study, by intercommunication with society, as far as our professional duties permit; and by availing ourselves of all opportunities to watch the progress of events, lest we become entirely antiquated, (if I may so express myself,) both in opinions and conduct.

But there is another sore evil which impedes the progress, and diminishes the profits of agriculture full as much, perhaps, as our prejudices;—I mean our inveterate habits of procrastination,—even after making up our minds as to what ought to be done in managing our farms. This disease, I believe, (for it may truly be called one,) afflicts the members of every vocation, in a greater or less degree; but being better acquainted with my own, I can better judge how much agriculturists are continually losing by it. Some of these losses are so well exemplified in an anecdote which I met with the other day, that I beg leave to give it to you. It is taken from Mr. Say, the celebrated author of a much admired work on Political Economy.

"Being in the country," says he, "I had an example of one of those small losses which a family is exposed to through negligence. For the want of a latchet of small value, the wicket of a barn-yard leading to the fields was left open. Every one who went through drew the door too; but as there was nothing to fasten the door with, it was always left flapping; sometimes open, sometimes shut. So the cocks and hens, and the chickens got out, and were lost. One day a fine pig got out, and ran off into the woods; and after the pig, ran all the people about the place,—the gardener, and the cook, and the dairy-maid. The gardener first caught sight of the runaway, and hastening after it, sprained his ankle; in consequence of which, the poor man was not able to get out of his house again for a fortnight. The cook found, when she came back from pursuing the pig, that the linen she had left by the fire had fallen down, and was burning; and the dairy-maid, having in her haste, neglected to tie up the legs of one of her cows, the cow had kicked a colt, which was in the same stable, and broken its leg. The gardener's lost time was worth twenty crowns,—to say nothing of the pain he suffered. The linen which was burned, and the colt which was spoiled, were worth as much more. Here then, was caused a loss of forty crowns, as well as much trouble, plague, and vexation, for the want of a latchet, which would not have cost threepence." Mr. Say's story is one of the many examples of the truth

of the old proverb,—“For want of a nail the shoe was lost, for want of a shoe the horse was lost, for want of a horse the man was lost.”

Now although no disasters exactly like the foregoing, may ever have happened from the neglectful and procrastinating habits of any one now present, yet I will venture to affirm, that there is not a single member of our society, who cannot call to mind something similar in his own experience. Let us all then, endeavour to profit by the story; for whether it be true or fiction, the moral conveyed by it is of equal value and importance.

Permit me to give one more illustration of the evil consequences of delays in the various pursuits of husbandry. It is a case in which I myself have been the procrastinator and the sufferer; but knowing many others of my brethren in the same predicament, I will make the statement for the general good. For ten or twelve years past, I have postponed from harvest to harvest, the purchase of a wheat-machine; although, never for a moment, during that period, in doubt, as to the superiority of the method of threshing out wheat to the barbarous, slovenly, and wasteful practice of treading it out: which practice, (by the way,) proves most conclusively, how rare it is for an agriculturist to keep any thing resembling a profit and loss account, especially in regard to each particular branch of his business. Were this done with the least approach to accuracy, it is hardly credible that any infatuation in favour of old practices could lead men to follow them in spite of the yearly conviction that they were considerable losers by it. But to return to my statement, just as I have thought, each year, that my mind was made to buy a wheat-machine, of a particular patent, our public journals would trumpet forth some other,—sustained by such a formidable array of certificates, as to banish my first choice entirely from my thoughts. This difficulty of deciding has continued, and for the reasons stated, until a few weeks ago, when I witnessed on the farm of my neighbour, Mr. Henry Waring, the trial of a two horse machine, of Douglas's patent, sold to him for \$125, by a Mr. Wood. I will state the particulars of the trial, because I have never yet seen a machine, although I have witnessed the operations of a considerable number, which appears to me to unite so successfully, all the requisites of a good one. It is uncommonly simple in construction,—requiring very little power to work it,—apparently very durable; so rapid in getting out the grain, as to give full employment to all the force of our largest farms in my part of the country; and withal very cheap. There were eight or ten gentlemen present at the trial,—two held watches; and the machine was worked precisely half an hour by one horse and two small mules, walking apparently with very little effort, and at their usual rate. The wheat produced in this half hour, was accurately measured in our presence, after passing twice through the fan, which sufficed to put it in very nice, merchantable order. The quantity was 144 bushels, equal to 29 bushels per hour. To ascertain what was left in the straw, I took up promiscuously 35 heads, in which I found, after close examination, only 8 grains, 3 of which were defective. In the same promiscuous way, I then counted a number of heads, that had not passed through the machine, in order to ascertain what would be a fair average to allow for each head that had passed through. This I determined to be 30, which would be 1050 for the 35 threshed heads. That the number was really greater, I have no doubt; because very few heads of perfect wheat have so few as 30 grains; but I resolved to estimate the average somewhat lower than I believed it in reality to be, to guard against error in favor of the machine. Here then, was one which left but 8 grains, and 3 of them defective—out of 1050; and *here is one*, (thanks to Mr. Douglas and his agent Mr. Booth,) which has ended my delays in purchasing so useful a thing on every farm, where small grain is cultivated to any extent.

Before I conclude, I beg leave to revert to the subject of manures, for the purpose of giving you the result of a small experiment made by my son, upon corn. It will prove, I think, beyond all doubt, that manure thus applied will yield more than 100 per cent. profit; even if the highest price be fixed on the manure itself, and the labour of applying it, that any practical farmer would name.

The experiment was made upon five eighths of an acre, of such high land as could not, I think, possibly have produced without manure, more than at the rate of six barrels per acre. Early in the spring the piece of ground was ploughed up flush. Deep furrows were then opened north and south, and six feet apart, by running a double plough backward and forward in the same track. These furrows were filled with stable manure, which had a considerable quantity of half-rotted wheat straw in it. The manure was then covered entirely by furrows run on each side, in the bottom of which a single coulter was drawn as deep as it would go. In this soft earth, and on each side the list, the corn was planted in such a manner, that when thinned out, the single stalks were designed to stand 2 feet apart in the row; but for every stalk on one side to be opposite the intervals on the other. This would make the whole number of stalks exactly equal to corn planted in single rows one foot apart, and six feet the wide way. Both methods will give 7596 stalks to the acre; but in double rows they have the advantage of greater distance from each other. Another advantage is, that the narrow spaces never being disturbed, farther than to keep them free from grass and weeds, by a light working with the hand-hoe, the roots of the corn plants grow into the manure in one direction, without ever being broken or torn to pieces; while they receive whatever ploughing they get, next the wide spaces. In our experiment, the wide spaces were ploughed once, cultered twice, and the narrow spaces, with a part of the wide ones, were hoed three times. The produce was nine barrels and three bushels of sound corn,—equal to fifteen barrels, one bushel and four-fifths per acre. The variety of corn planted, was a mixture of yellowish godseed and another variety, long cultivated by Mr. Marshall Rawlins, of Caroline, which became remarkable for producing more ears upon the stalk, than any corn I ever saw, except a dwarf variety of white corn, upon single stocks of which I have often seen, in wet land, from three to five ears of good corn.

The superior productiveness of Mr. Rawlin's corn, I have every reason to believe, is attributable to his having taken great pains, for many years in succession, to select his seed from stalks that bore the greatest number of ears;—a practice, by the way, which, I distinctly remember, was very strongly recommended by Mr. Joseph Cowper, a distinguished farmer of New Jersey, more than thirty years ago. Several others, I know, have tried it with most indisputable success; yet an immense majority, with all the characteristic apathy of our profession to every thing bearing even the name of improvement, continue the practice which has prevailed from the first settlement of the country; and that is, to regard nothing but the largeness and soundness of the ears taken for seed. To give you some idea of the quality of that variety which was used in the experiment just stated, I beg leave to present ten picked ears, which measure, on an average, 10 3-5 inches in length, and have from ten to sixteen rows of grain on the cob. The general average, however, of this variety is equal, I think, to eighteen or twenty rows. In closing my account of this experiment, it is due to Mr. Peter Minor, of Alberman, to state, that the hint was taken of one made by him in 1819. The chief difference between the two trials was, that his furrows were seven feet apart, and the stalks of corn only eighteen inches in the row, which would give about eight thousand seven hundred and eleven stalks, being one thousand one hundred and fifteen stalks more than the mode tried

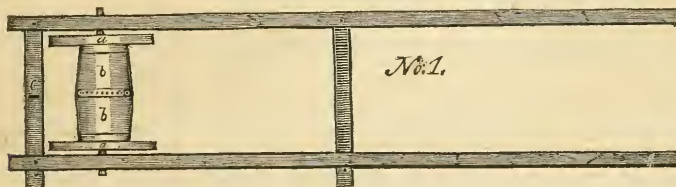
by my son; but I doubt much whether our soil and climate would bear such thick plantings as Mr. Minor's.

Anxious, as I always am, to contribute something more than mere inoperative good wishes towards the well-being of our society, as well as to the general improvement of agriculture, I beg leave to conclude the present communication by recommending two very simple implements. The first is a hand-drill, a model of which I have brought for your inspection. It will sow any kind of seed which, by a rotary motion, can be made to pass through holes in a hollow cylinder, and is designed chiefly for sowing garden seed in drills; but may be used, as you will readily perceive, for larger operations, merely by increasing the size. This may be done without adding to its weight more than a very small boy can easily manage. The cost, I presume, could not fairly be made to exceed one or two dollars, and will last, with care, for several generations, unless wilfully destroyed. The saving of seed will be obvious on inspection, and the saving of time I will state from actual trial. One man, in August last, sowed some ground with Siberian kail seed in about two hours, which it has usually taken two men nearly two days to sow in drills; and this, too, with incomparably more accuracy and economy than it can possibly be done with the fingers. To gardeners, I am sure, it will prove very useful; as well as to all farmers, in drilling turnips, lucerne, or any other seed which they may wish to sow in drills.

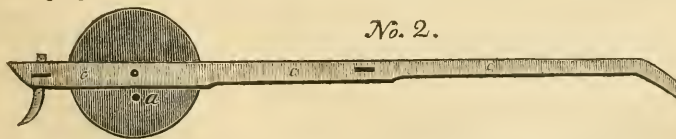
I will also recommend a small implement which may be called a weed-hook, as there is some efficacy in names. I have tried it with perfect success, instead of the clumsy, comparatively expensive expedient of an ox-chain, for pressing down any tall growth which

it is designed to bury by the plough. It is, as you will see, a small hook, intended to be about an inch wider than the furrow slice cut by the plough to which it is attached, making the same angle, with the under surface of the plough-beam towards the ploughman, that the coulter always makes with it towards the horses: in other words, exactly a reverse angle. This is to prevent the growth, whatever it be, from choking the plough, as it will slip down into the hook, by which it will be pressed forward in the direction of the furrow-slice, and only for such a width, as the plough will cut; so that not a single stem nor stalk of any thing designed to be turned under, will appear above ground, after the ploughing is finished. The upper part, or shank, as it may be called, must be fixed in the beam, where the coulter usually stands, but inclining backwards; and the holes will serve to elevate or depress it according to the depth of the ploughing, and the thickness of the cover. The hook should stand parallel to the surface, and about five or six inches above it, when the plough is running at the intended depth. My first experiment was made with the crooked limb of a cedar tree; but it sufficed to satisfy me thoroughly, that such an implement as I now present a model and drawing of, is far preferable to any thing in common use for a similar purpose. I have brought also a model and drawing of the hand-drill for your inspection. If any of these humble efforts shall prove of the smallest use to my brother agriculturists, either here or elsewhere, I shall be amply rewarded for having made them; and shall ask nothing more in this behalf, than to hear, should my life be spared until we meet again, that some have been benefited by this communication.

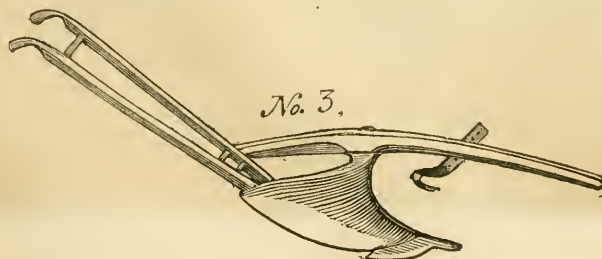
The following drawings give a good representation of the drill and plough described in the above address:



EXPLANATION OF NO. 1. *a a* Plank wheels one inch thick and twelve inches diameter. *bb* A cylinder made out of tin or sheet iron, four inches in diameter at the small ends, which are made to fit round blocks nailed on the wheels, the axle of which is square where it passes through the wheels, that they and the cylinder may revolve together. The diameter of the cylinder, in the middle, may be five or six inches, to keep the seed always over the holes, which are represented by the dots. The sizes and distances of the holes must be varied, to suit the size of the seed designed to be sowed. To effect this, either different cylinders must be used, or one must be made in two pieces, connected by a tin or sheet iron hoop one inch wide, which may be changed for others having larger or smaller holes. *c* A mortice for the small iron to trace shallow furrows for the seed.



EXPLANATION OF NO. 2. *a* A small hole through which the seed is poured into the cylinder, or this may be slipped off the blocks by first removing one of the handles, which is made to take off. *b* A small iron, fixed exactly in front of the holes, through which the seeds pass. *c c c* The handle—six feet long, one inch thick, and two inches at the widest part.



EXPLANATION OF NO. 3. The drawing is given merely to represent the angle which the hook makes with the beam of the plough, and the manner in which it is fixed. The shaft of the hook should be the size of a small coulter. The hook itself is round, about one inch in diameter at the largest part, and tapered to a blunt point. The form of the hook should be elliptical, so that the distance from the point to the shaft be about one inch greater than the distance from the hinder end of the share, across to the bar of the plough, in order that all the growth, which may stand on the furrow slice may certainly be gathered by the hook.

HORTICULTURE.

VARIETIES OF THE DAHLIA.

(Continued from page 301.)

IV VIOLET. *Flores Violaceæ.*

48. Grand Alexander. Stem, 2d altitude, green tinted with purple, smooth; leaves, plane and shining; flower, 1st magnitude, very double, well shaped, color, deep violet at the circumference, brownish purple in the centre; petals entire. The finest of the class.

49. Pompons violet. Speciosissima. Stem, 2d altitude, green nearly smooth; flower, 1st magnitude, very double, of a superb violet color, lightened towards the circumference; petals marked on the back with a white line.

50. Surpassing violet. Stem, 1st altitude, smooth, tinted with purple; leaves, large, deep dull green; flower, 1st magnitude, plane, composed of large petals, rounded at the extremity and bent backwards, varying in color from violet to purple.

51. Globular violet. Stem, 2d altitude, green and smooth; leaves, dull green; flower, 2d magnitude, of a fine violet color; petals, when first expanded, are nearly black and reflexed, so as almost to touch the peduncle, thus forming a globular head. (*Query.* Is not this the same as the "globe anemone flowered dahlia" exhibited at your office this season, and alluded to by me in a former article?)

52. Curled purple-violet. Stem, 2d altitude, green and smooth; leaves, rough, very large; flower, 2d magnitude, convex, velvet purple, shaded at the circumference to violet, centre occupied by a few tubular florets, surrounded by very small curled petals. Beautiful.

53. Large fringed. Stem, 4th altitude, woolly, deep green, stained with purple; leaves, deep shining green; flower, 1st magnitude, very double; petals, long, curled, particularly in the centre, and all fringed at the extremity.

54. Split-petalled purple violet. Stem, 1st altitude, bronzed green, pubescent; leaves, small, pointed; flower, 3d magnitude, double, purple in the centre, clear violet at the circumference; petals, deeply split, central do. small and curled.

55. Beautiful violet. 56. Slender-stalked violet.

57. Purplish violet. 58. Small-leaved violet.

59. Woolly stalked violet.

V. PURPLE. *Flores Purpureæ.*

60. Thourin. Stem, 2d altitude, smooth, green tinted with purple; flower, 1st magnitude, deep purple velvet, slightly convex and well formed; petals, large, firm, imbricated, central ones spoon-shaped, others turned backwards. This variety, said to be the most splendid of the whole genus, was obtained from seed, in 1825, by M. Soutif, and by him named after the venerable Thourin, professor at the "Jardin des Plantes."

61. Sabine. Stem, 1st altitude, purplish, slightly pubescent; flowers, 1st magnitude, of a beautiful purple; central petals small and curled, the others large, negligently arranged. Named by Noisette, of Paris, after Mr. Sabine, Secretary of the London Horticultural Society.

62. Redouté. Stem, 2d altitude, glaucous; flower, 2d magnitude, velvet purple, very dark, in the centre

almost black, well formed; central petals concave, marked with two furrows, which appear in relief on the back. Redouté, celebrated French flower painter.

63. Clear purple. Stem, 1st altitude, brownish purple; flower, 3d magnitude, plane, bright clear purple; petals curled.

64. Small purple. Stem, 2d altitude, smooth, purplish green; flower, 3d magnitude, fine purple; petals, concave and curled.

65. Noisette. Stem, 2d altitude, green with a purple tint, a little woolly; flower, 2d magnitude, very double, well formed; petals concave, rounded at the extremity; color, fine purple.

66. Royal highness. Stem, 3d altitude, smooth, purplish green; flower, 3d magnitude, fine purple; petals arranged far apart from each other with freedom, central ones curled.

67. Quilled purple. Stem, purple, woolly; flower, 1st magnitude; petals in great disorder, the central ones like long tubes or quills, those of the circumference split and divided.

68. Mueronate. Stem, 2d altitude, green and smooth; flower, 2d magnitude, well shaped, of fine color; petals terminate in a white point.

69. Small velvet purple. 70. Convex purple. 71. Elegant. 72. Brown stalked. 73. Admirable.

VI. AMARANTH. *Flores Amaranthini.*

74. Turpin. Stem, 3d altitude, green or slightly glaucous, tinted with violet; flower, 2d magnitude, very double and well formed, color of the globe amarant; petals all cornet shaped and concave.

75. Amarant. Stem, 3d altitude, strong, purplish green; flower, 2d magnitude, very double and regular; color as above but with less of a purplish tint. This difference of shade is the only distinction between the two varieties.

VII. RED. *Flores Rubri.*

76. Honor of Antwerp. Stem, 1st altitude, purplish green, smooth; flower, 2d magnitude, very double, convex, owing to the petals being much reflexed; color of the amarant with an addition of scarlet.

77. Sootif. Stem, 4th altitude, purplish green, smooth; flower, 1st magnitude, bright red, very double.

VIII. SCARLET. *Flores Coccinei.*

78. Cross of Malta. Stem, 1st altitude, purple, smooth; flowers, 1st magnitude, single, plane; petals large; color scarlet shaded; centre yellow.

79. Large purple-scarlet. Stem, 2d altitude; flower, 1st magnitude; petals, large, velvety; color, scarlet, with a shade of purple.

80. Small scarlet. Stem, 2d altitude; purplish green, slender, smooth; flower, 3d magnitude, double, but irregular; its principal merit is its splendid fiery color.

81. Poitean. Stem, 3d altitude, purplish green, very woolly; flower, 2d magnitude, double, regular; color, the most brilliant scarlet of the class.

82. Dwarf scarlet. Stem, 4th altitude, brownish, slightly pubescent; flower, 2d magnitude; petals, large, and slightly curled; color, fine scarlet, with a shade of purple.

83. Fringed scarlet. Stem, 2d altitude, appearing pale green in the shade, in the sun glaucous, tinted with violet; flower, 2d magnitude, purplish scarlet; has but two rows of large petals, and all the rest are small and fringed.

84. Martagon. Stem, 2d altitude, purple, smooth; flower, 1st magnitude, bright scarlet, peduncle, very long, and flower pendent; petals, long, at first plane, but gradually becoming fulled and revolute, like the martagon lily.

85. Rosette. Stem, 1st altitude, green, smooth; flower, 3d magnitude, always vertical, very double, well formed; petals, strong, firm, concave, fine scarlet. This variety is a very fine flowerer.

86. Cornet petalled scarlet. 87. Split-petalled scarlet.

IX. *Flores Punici.*

88. Flaming. Stem, 1st altitude, glaucous purple; flower, 3d magnitude; petals, twisted.

89. Small ponceau. Stem, 3d altitude, glaucous purple; flowers, very small, plain scarlet; petals, short and concave.

90. Orpin. Stem, 1st altitude, purplish green; flowers, 2d magnitude, scarlet, very double, plane; petals, narrow, concave.

91. Aurora. Stem, 2d altitude, purplish green; flower, 3d magnitude, very double; petals, narrow, some split and much curled, particularly in the centre.

92. Regular. Stem, 2d altitude, glaucous; flower, 2d magnitude, double; petals, large, divided at the end into three parts, very regular.

93. Cornet. Stem, 2d altitude, green, smooth and strong; flower, very double and well formed, brownish scarlet; petals, rolled into very narrow cornets, some split.

94. Morrey. Stem, 2d altitude, purplish green, pubescent; flower, 3d magnitude, very double; outer petals concave, central ones small curled; their bases or claws of a fine yellow; the remaining portion, murrey.

95. Extra double. Stem, 1st altitude, pale green, a little bronzed; flower, 3d magnitude, very double, variegated, red and yellow; petals, short; called extra double, because not only the whole flower is double, but each of the florets which compose it is also double, each containing two of three others.

96. Spotted scarlet. Stem, 2d altitude, smooth, green; flower, 2d magnitude, plane, double; outer petals, large; central petals, small, fringed; color, bright yellow ground, tinted and spotted with scarlet.

97. Fulehiron. Stem, 2d altitude, green, nearly smooth; flower, 2d magnitude, very double, tawny scarlet; central petals, yellow, very long.

98. Large flowered orange. 99. Small flowered orange.

X. TAWNY. *Flores Fulvi.*

100. Changeable. Stem, 3d altitude, purplish, smooth; flower, 3d magnitude, very double, well formed; outer petals, concave; central petals, curled; color, yellow ground, with shades of rose and lilac.

101. Large flowered tawny. Red streaked. Stem, 2d altitude, pale green; flower, 2d magnitude, tawny; petals, shaded with bands of red and yellow, some split.

102. Camelliæflora. Stem, 2d altitude, straight, erect, and purple; flower, 1st magnitude, very double, centre yellow; petals, narrow, channelled. (Why *Camelliæ flura*?)

103. Curled brick colored. 104. Split petalled chamois. 105. Nankin.

XI. PURE YELLOW. *Flores Flavi.*

106. Dwarf yellow. Stem, 4th altitude, very purple, smooth; flower, 2d magnitude, double; yellow as a Canary bird.

107. Thory. Stem, 2d altitude, pure green; flower, 2d magnitude, double, of a beautiful yellow, well formed; petals, slightly curled; central ones, cornet-shaped.

108. Convex yellow. Stem, 2d altitude, very purple; flower, 3d magnitude, very double, convex; petals, thrown back, channelled; color, fine clear yellow.

109. Sulphur. Stem, 1st altitude, purplish green, smooth; flower, superb, very double, of a sulphur color; outer petals, considerably spread.

110. Fragrant yellow. Stem, 2d altitude, purplish green; flower, 2d magnitude, very double, convex; petals, entire; color, fine yellow, fragrant.

111. Spotted yellow. Stem, 2d altitude, glaucous purple; flower, 3d magnitude, very double, well formed; petals, cornet-shaped, pure yellow ground, marked with a few red spots; beautiful.

There are, besides, other choice varieties, to the number of two hundred very select kinds.

I expect, in the course of the ensuing year, to be able to procure the new catalogue of M. Wallner, of Geneva. Should I succeed in getting it, and there be any thing therein interesting to your readers, I shall send it to you. D**.

(From the National Gazette.)

PENNSYLVANIA HORTICULTURAL SOCIETY.

The committee charged with the arrangement of the fourth annual exhibition of the Pennsylvania Horticultural Society, cannot close their labours, without making some record of the truly animating display on that occasion; and though, from the profusion of interesting objects exhibited, and the numerous contributors, their report must necessarily be circumscribed, it is hoped that it may serve as some memento of those choice productions, and the patriotic zeal of the individuals to whose efforts the society is so much indebted. If, by inadvertence the merits of any should be overlooked, it is hoped that the burden which devolved on the committee may be deemed a sufficient excuse.

The annual exhibitions of the society have heretofore been held in the vernal season, when the variety of flowers is great, when only many rare exotics are in bloom, and the earliest kinds of vegetables are in perfection. Fruits, however, are less abundant at that time, than at a more advanced period. To create variety and afford opportunity for the display of the many fine fruits our city and the surrounding country so prodigally yield throughout the autumn, the society decided on holding its exhibition for the present year in September; and although the season proved generally unfavorable, both for the quantity and quality of the fruit, the result was highly gratifying, and on no similar occasion has the same interest been excited.

The exhibition was held at the Masonic Hall, commencing on the 26th of September, and continuing throughout the 27th and 28th, and on the evenings of those days, when the rooms were brilliantly illuminated. The committee are happy in being able to state, that the amateurs who aided with the produce of their grounds, were much more numerous than heretofore; and that the number of visitors was far greater than on any previous occasion—a cheering evidence of the increasing pleasure our exhibitions afford.

The arrangement was at once chaste and novel, and the approving exclamations of the fair visitors evinced the good taste of Mr. J. B. Smith, to whose direction that portion of our duties was especially intrusted. To attempt a minute description were a task not easy of accomplishment; we must be content to speak in general terms.

Among the large number of foreign plants were many choice specimens of the rarest species now in this country. Indeed every portion of the globe seemed to have been rendered tributary to this fair scene. It is related of a Hindoo who visited the botanic garden of Liverpool, when amidst the vast assemblage of exotic plants that ornament those grounds and add lustre to the British nation, his eye rested on the palm of his native land, under whose foliage the sportive hours of his childhood had been spent, he ran to clasp it while tears flowed down his cheeks—overcome by the associations of his earlier years. Had the native of the Isles, or the shores of the Pacific, the Brahmin of India, the negro of the wilds of Africa, in short an inhabitant of any portion of the globe, however remote, been present at our vegetable festival, he would have found something to remind him of his far distant home,—so numerous was the variety and the sources from which they had originated. Among the plants present, which from their uses are popularly known, we may enumerate, the tea, the coffee, the sago, the Indian rubber, the mango, the olive, the banana, the rose apple, (Eugenia,) the indigo, the Japanese medlar, the fragrant olive, which scents the finer teas,

* This word is not to be found in Walker, but the temptation to use it is too strong to be withstood.

the pine apple, the bread-fruit, the date, the sugar cane, the camphor tree, the black pepper, the cinnamon, the New Zealand flax, the agave, the cochineal cactus, the plantain, the cream nut, the oil bearing camellia of China, the cocoa-nut, the pomegranate, the Guava, the pistachia tree, the cajuput, the turmeric. Others of far greater variety were present, but we must forbear a recital here, referring the scientific and curious to the detailed specification hereto annexed.

The collection of fruits was interesting both as regards variety and quality. Of peaches, several new seedlings of value were brought forward; of pears, many worthy of individual notice, but we can here only refer to the Doyenne gris, whose superior excellence especially demands to be recorded; of grapes, there was a fine display, both native and foreign. Also apples, quinces, lemons, of unusual size, &c. In esculent vegetables too, the exhibition was rich. The specimens of most varieties were truly worthy of distinction, and attracted much attention. Indeed, in every department there was much to merit the strongest approbation and special notice.

The daily increasing attention to the art of gardening, and to botanical science, evinced by the community since the formation of the Horticultural Society, is a pleasing augury of what combined and continued efforts may hereafter effect. Already a fondness for flowers and floral studies seems to be fast assuming the ground heretofore held by more volatile pursuits. It is gratifying to see the public taste concentrating on a subject not only so pleasing in every particular, but abounding in much to elevate the mind and induce the most happy reflections—for who, when dwelling on the minutest portion of nature's works, but insensibly and pleasingly reverts to the great author of its existence—who, when his attention is directed to the simplest petal in the great floral family, but feels his intellect elevated and enlarged, and withdrawn from the cold calculations of every day existence. Flowers are the emblems of innocence and peace—and it has been somewhere said, their presence in the garden, or the window, is indicative of a quiet home and happy family.

Although much has been done by our association, more remains to be accomplished. So far as the yearly and monthly exhibitions of the society could aid in giving an impetus to horticultural zeal, they have been highly successful—but much greater advantages may be anticipated if the original design of an experimental garden shall be carried into effect. There we could at all times resort, and have before us a living, imperishable witness of the advantages of the art. A practical and pleasing illustration of the benefits of our exertions would then be constantly in sight, a reward for past efforts and a stimulus to future exertions. And why, may it be asked, should Philadelphia lack such an institution? If taste, wealth, and professional zeal be requisite, where, in the union, shall more be looked for? Let us then hope for its accomplishment, and hoping, act with energy, and it may be speedily possessed.

In Europe, horticultural and botanical institutions, abound. In Great Britain, even provincial towns are ornamented by them, often to a considerable extent, and rich in vegetable treasures called from every clime. And shall it longer be said that Philadelphia city, which claims to take the lead in all that is elegant and refined: the Athens of a vast empire, is destitute of an institution so eminently intellectual?

As a complete list of the plants is too extensive for insertion here, we shall specify only some of the more interesting either from the beauty of the specimens, or their rarity.

Ficus Bengalensis, *populifolia*, and *religiosa*; *Mespilus Japonica*; *Dillenia speciosa*; *Laurus camphora*; *Plectranthus punctatus*; *Pteroporum acerifolium*; *Cookia punctata*; and *Plumeria alba*—by A. D'Arras. *Piper nigrum*; *Cactus heptagonus*; *Casuarina torulosa*; *Cactus triangularis*; *Ficus costata*; *Cycas revoluta*; *Maranta zebrina*; *Ficus elastica*; *Cactus cochini-*

nellifer—by J. M'Arran.

Baccharis angustifolia; *Hedychium spicatum* and *coronarium*; *Plectranthus fruticosus*; *Maranta bicolor*; *Melaleuca pubescens*; *Ixora coccinea*—by A. Parker. *Melastoma nervosa*; *Virgilia Capensis*; *Bleia tankervillei*; *Ficus australis*; *Latania Burbonica*; *Erythrina cristagalli*; *Euphorbia heterophylla*; *Rhododendron arboreum*; *Mangifera indica*; *Musa paradisiaca*; *Dillenia speciosa*; *Ficus Bengalensis*; *Illicium floridanum*; *Pandanus odoratissimus*; *Laurus cinnamomum*; *Gloxinia arborea*—by G. Pepper.

Carolinia princeps; *Corypha sp.*; *Cupressus australis*; *Cookia punctata*; *Cactus melocactus*; *Camellia oleifera*; *Cocos nucifera*; *Cestrum nocturnum*; *Ficus vestita*, nitida, and an undescribed species; *Hedysarum plicatum*; *Indigofera fragrans*; *Kæmpferia rotunda*; *Myrtus unidorsus*; *Artocarpus incisa*; *Phoenix dactylifera*; *Piper medium*; *Pandanus odoratissimus*, and *Zamia horrida*—by J. B. Smith.

Musa coccinea; *Zamia pungens*; *Serissa foetida*, the Japan box-thorn; *Pandanus odoratissimus*; *Pistachia terebinthus*; the yellow tea rose; *Cycas revoluta*; *As-trapea Wallichii*; *Melaleuca Cajepati*; *Maurandia Barclayana*—by R. Carr.

Hakea suaveolens; *Mangifera indica*; *Pinus longifolia*; *Curcuma longa*; *Olea fragrans*; *Ovieda verticillata*; *Chamaerops hystrix*, in fruit; sugar cane —by H. Pratt.

Acacia longifolia; *Melastoma nepalensis*; *Cactus truncatus*; *Gloxinia speciosa* and *arborea*; *Musa paradisiaca*—by Mr. Gutzwill.

Rhapis biflorifolia; *Epacris grandiflora*; *Erica caffra*; *Empetrum truncatum*; *Banksia speciosa*; *Eugenia australis*, in fruit; with a variety of fine roses and dahlias—by Hibbert & Buist.

Cactus arboreus, *Acacia angustifolia*, *agapanthus umbellatus*; *Westringia rosmarinifolia*—by Mr. Keyser.

Caecalia speciosa, and several remarkable species of aloe—by R. Pierpont.

Beautiful specimens of Citri, laden with fruit, and numerous rare exotics, of which no detailed list has been furnished—by D. & C. Landreth.

A fine display of dahlias, bouquets, and many other valuable contributions of plants—by D. Maupay, Dr. Gibson, John H. Cresson, P. K. Gorgas, Miss Rebecca Lawrence, William Cushing, and J. Crumback.

FRUITS.

Pears.—Belle and bonne, a fine French variety, by Mrs. Parmentier of New York. Gray doyenne, above alluded to; it is one of the beurre or butter pears, by D. Maupay.

Petre pear, by R. Carr. Fall christian, by J. J. Borie. Seckel pears, remarkably fine, by several contributors. Vertelongue panache, a singularly striped French pear, from the place of the late Stephen Girard, by Mr. Barney. Several other excellent varieties, by J. B. Smith, J. Copis, S. Gratz, and A. Parker.

Peaches.—Three new seedling free stones, by Mr. Bates, of Camden, N. J. Fox's and Eastburn's favourite, both seedlings, by John Evans. Lemon cling and Rodman cling, by John M. Kaign, of New Jersey. Clings, remarkably fine, by Isaac Reeves, of Red Bank, N. J. and by G. Dixon. A beautiful vase of peaches and grapes was presented by Mrs. H. C. Carey.

Grapes.—Elsinborough, from the first offspring of the original vine at Elsinborough, New Jersey; it was gratifying to observe the improvement which has taken place in this interesting variety from cultivation. Cultivated specimens from Burlington were presented by A. Quicksall, Walter Wilson, and S. R. Wetherill; those from the latter gentleman were from two vines, one bearing one hundred bunches, and the other two hundred. Red Catawba, our best native pulpy grape, and blue Isabella, both from a vineyard containing more than three thousand vines,

the greater part then loaded with fruit, nearly ripe, by E. H. Bonsal, of Germantown. White sweet water, from a vine bearing more than four hundred bunches; from the garden of J. Longstreth. Chasselas and savignon, in great perfection, from the garden of J. Buonaparte, at Bordentown. Four bunches of the Hampton Court grape, one of which weighed eighteen ounces; by Hibbert & Buist. Lawton Isabella, by W. W. Fisher. Malaga and black Hamburg, very superior, by Mr. Vansickle. Chasselas, a bunch weighing 1 lb. 14 oz., by Rowland Jones, of Burlington. Hanteretto and other Hungarian, by Mr. Laws. Numerous others, of superior excellence, were contributed by R. Carr, David Allen, of Burlington, Joseph Price, J. Evans, A. B. Engstrom, T. Stewardson, J. S. Waln, S. J. Robbins, and D. & C. Landreth.

Quinces.—A small and beautiful variety, by Wm. Raster. Large and fine by H. Pratt; and also by A. D'Arras and J. B. Smith.

Apples.—Several varieties by A. Parker and John Evans.

Lemons.—Noticed above as very superior, by C. Chauncey and S. R. Wetherill.

Citrons.—St. Helena, remarkably large and fine, by H. Pratt.

Figs.—White and very superior, by J. Longstreth. Other varieties, by John Evans and A. Parker.

Melons.—Red Romana muskmelon, remarkable for the red colour of the flesh, lately introduced by H. Pratt.

VEGETABLES.

Turnip-rooted cabbage and artichokes, by J. B. Smith.

Dutch turnips, possessing a very delicate skin, and mangel wurzel, both fine, by Henry Chorley.

Summer blood beet; Malaga squash, a new article; prickley cucumber, for pickling, in fine order; early peas, the autumnal crop; a new variety of radish, shaped like the long red, but pure white, decidedly superior in quality, obtained in two years, by four times sowing—by R. Scott.

Royal cabbage lettuce; early peas, the autumnal crop; white solid celery; dark claret and Italian turnip beets, early horn, and long orange carrots; curled endive; all in fine condition—by J. Engelman.

Egg-plants, very large and fine; curled broccoli; orange carrots; parsnips—from the garden of S. Gratz.

Squashes; Giraumon d'Athene, fine for the table while quite young; and also for pies when ripe; giraumon turban, ornamental and edible; the seed of both imported from France—by E. Harris, of Moorestown, N. J.

Egg-plants, a new variety, singularly resembling the tomat in shape and appearance—by D. Maupay.

Drum-head cabbage; red Portugal Beet; white Portugal beet; onions; salmon, brown turnip and black winter radishes—by Ashton Barton.

Indian corn, very tall and fine; ruta baga, sown on the 16th of August, and of fine size for its age, mangel wurzel—by J. Kenworthy.

Cocoa-nut squash, an admirable vegetable, in perfection throughout the winter—by D. & C. Landreth.

Other valuable contributions of vegetables were received from D. Allen, of Burlington, Adam Price, of Burlington; John Evans, and from the Asylum for the Deaf and Dumb.

Leaves of the *morus multicaulis*, or Chinese many-stalked mulberry, the best sort for worms, with cocoons—by Mrs. Parmentier, of New York.

Leaves of the white Italian mulberry, esteemed next to the above for worms—by J. Evans, who cultivates it extensively.

Several bottles of superior Champagne cider were presented by Joseph Johns, and two bottles of elder vine by Mrs. Hoare.

For paintings of fruits and flowers, and for several other objects, not all embraced in the views of the society, but which contributed largely to ornament the room, the committee are indebted to A. B. Engstrom,

J. M'Arran, John Robbins, A. Parker, H. M. Zollikofer, Mrs. Parkinson, and George Reynolds.

Published by order of the society,

C. PICKERING, Rec. Sec'y.

CULTIVATION OF THE HORSE RADISH.

In the autumn, when the roots are taken out of the ground, select all the small side roots from 9 to 12 inches in length, and as thick as a quill, or thereabouts; tie them in bunches, and preserve them in a place protected from the frost, during the winter. The planting is commenced in the beginning or middle of April. In dry weather, divide the ground into beds, 4 ft. wide (some make them only 3 ft. wide.) These beds are with me raised a little with the mold out of the alleys, so that they are about a couple of inches higher in the middle than on the sides next the alleys. With a woollen cloth, rub off all the lateral fibres from the roots above described, and also pare off each extremity, so that the wounds may be fresh; then plant them by inserting them horizontally into the sides of the elevated beds, about a foot apart, and in a quincuncial manner, so that the bottom part of the root is about 6 or 7 inches below the surface, and the top, or crown end of the root, stands a little out of the side of the bed, remembering that the roots are to be inclined a little, so that their lower extremity is rather deeper than their upper. In the latter end of June, or some time in July, cut off with a sharp knife all the lateral fibres of each root, which is done by placing the root on the lower extremity, and carefully lifting the root out of the ground as far as may be necessary. This operation is performed two or three times every summer. When the operation is over, replace the roots as before, and cover them with mold. The roots or fibres which are left at the end of the main root, and not disturbed (for the operation must be done carefully) are sufficient to nourish the plant. In the third year, the roots have attained their full size. Laying the roots horizontally has this advantage, that they are easily taken out of the ground without breaking; while cutting off the side roots makes the main root grow straight and thick. It is advisable to plant a bed every year.

MISCELLANEOUS.

BRIEF NOTICE OF ALLEGANY COUNTY, IN MARYLAND; its Natural Advantages and Resources, as well for Capitalists as for European Settlers of small means.

No part of our country has been more benefited than Allegany, as increasing facilities for travelling and transportation, have recently brought its natural advantages to the view of the public. So rapid, in fact, is now the development of its resources, that they have become prominent objects of attention, with men of capital and forecast; and thus, though lands, that were hitherto considered almost inaccessible, have risen several dollars in the acre; there yet remains open, the best and safest field in our country for speculation or settlement. To show that nature has designed for this district of our country, a vast accumulation of population and wealth, it is only necessary to advert for a moment to its peculiarly favourable position, and other no less pregnant circumstances. Of its climate, it is no exaggeration to say, that in the air of the Alleghenies there is a pureness, and elasticity, that by removing all sense of oppression from the lungs, exhilarates the spirits, and imparts extraordinary vigor to the frame. It is no uncommon thing to see there men of more than fourscore years, pursuing the bee to his well stored hive, with unflinching sight; or going forth with their rifles, to add with never-failing success, a buck, or a turkey, to their store of provisions; in fact, so free is the country from all diseases of climate, and such

the force which its elastic atmosphere imparts to the constitution, to resist other causes of sickness, that Physicians may be said to owe their little employment, to the casualties incident to hardy labour, and death ensues only—age, accident, or the grossest neglect of premonitory symptoms.

For European settlers of limited means, no country on earth holds out more potent inducements. It is not overcharging the picture to say of it, that it is literally a "land flowing with milk and honey." One of its most thriving, wealthy, and respectable inhabitants, is a Mr. Staunton; who, but a few years since, went there with no means nor companions but a horse and a cow. *Ex uno omne disces.*

What, in fact, does the hardy pioneer require, that nature has not here thrown in profusion at his feet? Boundless glades of rich prairie land, afford range and pasturage incredibly abundant and nutritious, for horses, cattle, sheep and hogs. For all these animals, there cannot be a more congenial country, supplying to the new settlers, at once, and almost without effort, meat, clothing, milk and butter; whilst for sugar, he has but to strike his axe into the magnificent maple that overshadows his dwelling; and with little labour, and as little skill, he can manufacture more than his family can consume. Besides the sugar-yielding maple, the county abounds in valuable timber. The yellow pine, of immense size, and of the finest quality, grows there, as is remarkable, in the richest soil; and in "social proximity" with the oak, the hickory, and the chestnut; and it may be added, as giving additional value to this resource, that, partially as the county has as yet been explored, inexhaustible beds of coal and iron ore, (those two minerals that above all others have added to the wealth and power of other nations) have been disclosed in Allegany; and bountiful Nature, as if only to leave some scope for art and industry, has provided this region of timber, coal and iron, with numerous waterfalls of immense power! Here then is presented strong and peculiar temptations to the capitalists of the north of Europe, who could bring with them that sort of experience, skill, and operative labour, which is demanded in the manufacture of iron, and which always yield great wealth to those who first employ them in a new country like ours, where, for want of the capital required to create such establishments, the competition must for ages be very limited.

To return to its agricultural productions, which yield at once the means of subsistence, and afford certain sources of increasing fortune; it is proper to state a fact that may not be generally known; yet is the more interesting, as it relates to the most valuable of all culinary products, (one capable in itself of sustaining a people,) that no soil, not even that of Ireland itself, produces finer potatoes than Allegany county; and for oats, so remarkable is their quality, that they are specially bought up as food for our racehorses when in training, where the object is known to be, to find, in the smallest bulk, the greatest proportion of nutritive matter. Though other, and valuable fruits of cultivation, congenial to the soil of Allegany, might be dwelt upon with interest to those who, from obvious circumstances, have been kept ignorant of the great, but hitherto comparatively unknown advantages of this county: we will here only advert to one more, and which has been but recently, and little attended to; but which alone must inevitably establish for Allegany that pre-eminence, in proportion to the price of its lands, which it would seem but a few men of enterprise and discernment have heretofore anticipated. The valuable discovery, here alluded to is, its well ascertained adaptation to the growth of tobacco, of the very finest quality. By actual and recent inquiry of the public Inspector, and of those to whom the Allegany county tobacco is consigned in this market, it is found that from

no part of America is that article exported to Europe, of a quality superior, if equal to that which is sold here by a few of its planters; who have found in it alone the means of meeting their purchases, and of adding rapidly to their landed estates. The leaf is of the finest texture, between a light brown and red, much in demand for the wrappers of segars; whereof the body is made of an article of inferior description. The planter has but to kill the foliage by girdling the tree, and to plant and plough his ground, gathering from the acre from 800 to 1,000 lbs. that yield readily in our market from \$10 to \$18 per hundred; so that the produce of a single acre, will often purchase the fee simple of from fifty to one hundred. By wagons, the cost of transportation to Baltimore, has been \$1.25 per hundred pounds; the operation being even then one of great profit to the agriculturist. How rapid then must be his gains when that expense shall have been reduced by the rail road to four cents per ton, per mile, the maximum which the charter allows to be charged by the rail road company. Planters might be named, now engaged in the culture of this commodity, who are meeting the conditions of their purchase of large tracts, with the proceeds of their tobacco crop alone; and specimens of the growth of the present year may be seen at the Merchant's Exchange, and at the office of the American Farmer, to convince the most sceptical, that its quality is of the very finest description, fitted to supply a demand both peculiar and extensive.

With a climate then, indisputably healthy, in a most remarkable degree; with cheap land so fertile that flocks and herds innumerable may be fattened on its spontaneous growth; yielding flax, hemp, wool, oats, potatoes and tobacco, of the very finest kind; with immeasurable abundance of meat, milk, and butter—with sugar exuding from every maple, and honey dripping from almost every hollow tree—watered by rivulets alive with the finest trout;—where with a load of powder and a rifle ball, a fat turkey or a haunch of venison may be provided for every day's repast—where copious streams of water for manufactures flow through forests of gigantic timber, and beds of coal and iron—with a free government, and almost without taxes; what remains to ensure for it a population teeming and vigorous, in health and numbers? The only thing that was required, is being supplied by the natural progress of time and of internal improvements. It is becoming better known by being made more accessible. With ways and means, by roads and canals, rapidly multiplying and improving, to connect it with a city of more than eighty thousand inhabitants, and a market well adapted to the consumption and export of her native productions; Allegany is now on the eve of realizing the highly profitable results that must ever spring from the union of the most valuable products of the forest; the mines and the plough; easy access to purchasers of capital; and the highest elevation and healthiness of climate. In point of time, which is money, and of actual cost of transportation, her heaviest commodities will soon be brought at the rate of eight or ten miles an hour, within twenty-four hours of Baltimore. There is finally no extravagance in the anticipation, that in ten years from this date, the glades of Allegany will become the favorite resort of the valetudinarian and of the man of leisure and fortune; who will seek in the mountain air, the cheapest restorative of health—the most fruitful fields of recreative amusement; and the surest fund for investments, that must as certainly accumulate, as the "sparks fly upwards." One word to its present inhabitants—Let your axes and your ploughs be busy in making roads; leave all the rest to Providence, and he will consummate the high destiny he has in store for yourselves and those who are to follow you.

A DISINTERESTED OBSERVER.

Prices Current in New York, December 1.
 Beans, yellow, 18 a 20. Cotton, New Orleans, 11 a 13; Upland, 10½ a 13; Alabama, 11 a 13. Cotton Baggins, Hemp, yd. 13 a 21½; Flax, 13 a 14½. Flax American, 7 a 8. Flaxseed, 7 bush. clean, — a 13.25; rough, 12.75 a 13.00. Flour, N. York, bbl. 6.25 a —; Canal, 6.56 a 6.66; Balt. How'd st. 6.62 a —; Rhd's city mills, 6.81 a —; country, 6.10 a 6.25; Alexandria, 6.62 a 6.75; Fredericks', 6.25 a —; Peters', new, — a 6.25; Rye flour, 4.75 a —; Indian meal, per bbl. 3.87 a 4.00, per hhd. 18.00 a —. Grain, Wheat, North, 1.30 a —; Vir. 1.30 a 1.35; Rye, North, — a .90; Corn, Vel. North, .88 a .90; Barley, — a .75; Oats, South and North, 45 a 49; Peas, white, dry, 7 bu. 5.00 a —; Beans, 7 bu. 7.00 a 6.00; Provision, Beef, mess, 8.12½ a 8.50; prime, 5.12½ a 5.25; cargo, — a —; Pork, mess, bbl. 13.00 a 14.50, prime, 10.75 a 12.00; Lard, 63 a 9.

FLOWERS.

Just received at the American Farmer Office and Seed Store "A Treatise on the culture and growth of different sorts of Flower Roots and of Green-house Plants kept in rooms, &c. to which is added a table of the Linnaean classes of botany, with their order and examples." Price 50 cents.

JENNIES WANTED.

A gentleman wants one Jenny or more, and will pay a fair price for first rate animals of the kind, but no others will answer his purpose. Any person having such to dispose of may hear of a purchaser by addressing

I. I. HITCHCOCK,
 American Farmer Office.

RED ANTWERP RASPBERRY BUSHES.

For sale at the American Farmer Office and Seed Store. Price, 12½ cents each; \$1.25 per dozen; or \$8 per hundred.

I. I. HITCHCOCK.

BUFFALO BERRY TREE, OR SHEPHERDIA.

A small number of these splendid trees, natives of the Rocky Mountains, and equally desirable for their fruit, and their beauty, have just been received and are for sale at the American Farmer Office and Seed Store, No. 16, South Calvert street. Price \$1 each. Those who want them would better make early application, as the demand is great and the supply scanty.

I. I. HITCHCOCK.

"SHAKER GARDEN SEEDS."

The Subscriber has been appointed by the United Society of Shakers, at New Lebanon, N. Y. agent for the sale of their celebrated GARDEN SEEDS, which may be obtained from him hereafter, by wholesale or retail. He has this day received direct from the Society, 14 boxes, each comprising an assortment, more or less extensive according to its size. Of these a part are small "Family boxes," containing a quantity suitable for a common garden, with a list of contents annexed. The character of these seeds is too well established to need recommendation. Apply at the American Farmer Office and Seed Store, No. 16, South Calvert-street.

I. I. HITCHCOCK.

Nov 16.

SILKWORM EGGS WANTED.

Wanted at the American Farmer Office and Seed Store, No. 16 South Calvert street, a quantity of Silkworm Eggs, for which a fair price will be paid, by

I. I. HITCHCOCK.

MORUS MULTICAULIS, OR NEW CHINESE MULBERRY.

Superior to all others for Silkworms in these respects: 1st. The stalk is low, and therefore the leaves are more easily gathered than from large trees.

2d. The leaves are large—from ten to fourteen inches long, and from eight to twelve broad, hence much of the usual labor of gathering is saved.

3d. A method of cultivation will be supplied by the purchaser of twenty trees at this establishment, by which he will in three years have a full supply of leaves for any desirable silk establishment.

A few hundred of these trees are for sale at the American Farmer Office and Seed Store, No. 16 South Calvert street, by

I. I. HITCHCOCK.

STRAW CUTTERS, CORN SHELLERS, &c.

SINCLAIR & MOORE, offer for sale a variety of kinds of Straw Cutters, the Cylindrical of the following sizes and prices, viz. 11 inch box at \$27. 14 inch at \$45. 16 inch at \$55. 20 inch at \$75. The smallest (price \$27) will cut 300 bushels of straw one kind long per day, and is precisely the kind spoken of in the following note, addressed us by the proprietor of the American Farmer:

GENTLEMEN: Baltimore, October 2, 1832.

John G. Eliot, for whom we bought one of your Straw Cutters last year, writes me thus, under date of Sept. 20, 1832:

"The Cutting Knife answers well. I would not be without it for the price of two."

I have much pleasure in communicating the above, for I think the instrument well deserves the compliment thus bestowed on it. Yours, truly,

SINCLAIR & MOORE, Balt. I. I. HITCHCOCK.

The second size has cut, in the vicinity of Baltimore, seven hundred bushels per day, with manual power.—The third and fourth are capable of much more, particularly with horse or water power. These machines may now be expected to go into more general use, as they can be furnished at a more moderate price.

Also circular knife self-feeding boxes at \$20. Common Dutch box at \$7.50, and smaller size at \$5.

CORN SHELLERS, with vertical cast iron wheels, very durable and easily kept in order, which shell with great ease and rapidly, price \$20. CAST STEEL AXES, with a general assortment of AGRICULTURAL IMPLEMENTS and GARDEN SEEDS.

FOX & BORLAND'S THRESHING MACHINE.

The subscriber presents to the public, the following extract of a letter from James Sykes, Esq. to whom he had forwarded one of his threshing machines, (on Fox & Borland's principle) to get out his crop with, for the purpose of testing its merits. Having received very flattering accounts of their performance from various sources, he is now ready to receive orders for them, to furnish the machine with or without the horse power, the latter he would prefer, if his customers could furnish themselves with suitable horse powers.—Those wishing to obtain these machines for the coming season, should lose no time in forwarding their orders.

J. S. EASTMAN.

Mr. J. S. EASTMAN: Sykesville, Nov. 28, 1832.

Sir,—Your threshing machine would have left here this morning but for the neglect of my overseer; I will myself attend to putting it upon the car in the morning. I have given it a fair trial and consider it far superior to any other threshing machine which has come under my observation, and I have seen and used several.

On Saturday last, I got out a rick of oats, running the machine four hours and two minutes; upon cleaning and measuring the oats found them to measure 192 bushels, being nearly at the rate of 50 bushels per hour. Yesterday I threshed two stacks of wheat, having the machine in operation five hours eleven minutes, (5 h. 11 m.) on cleaning and measuring the wheat to-day; find 113 bushels; averaging upwards of 20 bushels per hour, the straw of the wheat very long; this machine is very simple, not liable to get out of order, and threshes very clean.

I feel so much pleased with the performance of your machine, that I intend to get one next season, although I have one of another plan, considering yours decidedly more safe than any other.

Very respectfully, yours, JAMES SYKES.

CHOICE DEVON STOCK.

I have for sale, for a celebrated breeder, the following choice animals, at prices annexed. They are all pure and full bred, and have not been offered for sale. Such an opportunity seldom occurs for procuring first rate stock.

Two BULLS and six HEIFERS, of various ages less than one year at \$50 to 75 each.

Two HEIFERS about two years old, \$75 and 80. Several older COWS, in calf by a full bred bull, \$100 to 125 each.

One FULL BRED BULL, three years old, a fine animal, \$150. Address I. I. HITCHCOCK, At the American Farmer Office and Seed Store.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—We have scarcely a shade of variation to notice in any article of produce. The wagon price of Howard street flour continues at \$6.12, and the store price of both that and city mills remain as before. Both wheat and corn are coming in freely. New corn varies in price according to dryness.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 5.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a —.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise about 485 hhd. Md.; 19 hhd. Ohio; and 3 hhd. Vir.—total 451 hhd.

Flour.—best white wheat family, \$6.75 a 7.25; super Howard-street, 6.12½ a 6.25; city mills, 6.00 a —; city mills extra 6.12½ a 6.25;—CORN MEAL bbl. \$ 50;—GRAIN, best wheat, 1.16 a 1.20; white do. 1.20 a 1.25;—CORN, old, 76 a 80, new 60 a 65;—RYE, 71 a 73 —OATS, 40 a 43.—BEANS, 75 a 80.—PEAS, 65 a 70 —CLOVER-SEED 7.00 a 7.50.—TIMOTHY, — a —.—ORCHARD GRASS 2.00 a 2.25.—Tall Meadow Oat Grass 2.00 a 2.50.—Herd's, 75 a 87½.—Lucerne — a 37½ lb.—BARLEY, FLAX-SEED 1.50 a 1.62.—Cotton, Va. 8 a 11½—Lou 9 a 13—Alab. 8 a 12.—Tenn. 9 a 11½; N. Car. 8 a 12.—Upland 10 a 12½.—Wool, Washed, Prime or Saxony Fleeces 45 a 50; American Full Blood, 35 a 45; three quarters do. 33 a 35; half do. 30 a 33; quarter do. 28 a 30; common 25 a 28. Unwashed, Prime or Saxony Fleeces 25 a 30; American Full Blood, 25 a 25; three quarters do. 20 a 22; half do. 18 a 20; quarter do. 16 a 18; common, 16 a 18 Hemp, Russia, 10, \$205 a 215; Country, dew-rotted, 6 a 7c. lb. water-rotted, 7 a 8c.—Feathers, 37½ a 38; Plaster Paris, per ton, 2.00 a —, ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 75.00 a 85.00.—Prime Beef on the hoof, 5.00 a 5.50.—Oak wood, 4.00 a 4.50; Hickory, 5.50 a 6.00; Pine, 3.25.

CONTENTS OF THIS NUMBER.

Editorial; Mr. Garnett's Address; Maryland Horticultural Society; Fine Turnip; Bots in Horses—An old Maxim contradicted—New Vacuum Sugar—Natural Curiosity—Curing Tobacco by Steam—Address to the Fredericksburg Agricultural Society, by the President, James M. Garnett; Drawings and Descriptions of an improved Drill and Weed-hook—Descriptions of the most Splendid Varieties of the Dahlia, concluded—Account of the late Exhibition of the Pennsylvania Horticultural Society, Plants; Fruits; Vegetables—On the Cultivation of the Horseradish—Brief Notice of Allegany county in Maryland; its Natural Advantages and Resources, as well for Capitalists as for European Settlers of Small Means, by a Disinterested Observer—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

Special Agents for the American Farmer.

The following persons are authorised to act as Agents for the American Farmer in their several places of residence:

Boston,	John B. Russell, N. E. Farmer Office.
New-York,	J. H. Gourlie, at the Post Office.
Philadelphia,	D. & C. Landreth, 83 Chestnut street.
	B. E. Frymuth, Marble Court.
	F. Thompson.
Washington, D. C.	Cole & Co.
Petersburg, Va.	Thomas Coleman.
Raleigh, N. C.	Joseph Gale & Son.
Canden, S. C.	F. Thornton, Post Master.
New Orleans,	Wm. McKean.
Nashville, Tenn.	Eichbaum & Norvell
Nutley, Miss.	Fredrick Staunton.
Port Gibson, Miss.	Passmore Hoopes.
Salem, N. J.	H. H. Elwell.
General Agent for the State of Maryland,	T. B. Brennan.

☞ DIRECTION OF LETTERS.—Address all BUSINESS letters concerning the Farmer, the store, or the agency, to the proprietor, "I. Irvine Hitchcock, Baltimore, Md."

Printed by J. D. Toy, corner of St. Paul and Market streets.

FROM BALTIMORE.

BALTIMORE, FRIDAY, DECEMBER 14, 1832.

AMERICAN SILK.—We are indebted to J. S. Skinner, Esq., for the opportunity of examining some beautiful specimens of sewing silk, made in Wayne county, Indiana, and forwarded to Mr. S. by D. C. Wallace, Esq. of Cincinnati. The specimens are a part of the parcel of silk to which a premium was awarded by the Agricultural Society, of Wayne county, in October last, and are decidedly the best we have seen of domestic manufacture. The reeling, twisting, coloring and finish, are equal to the best foreign production. Indeed, we seldom meet with foreign silk that will compare with these specimens, as to evenness and strength; and as to coloring, they are not often excelled.

Mr. Wallace remarks in his letter to Mr. Skinner, that if filatures were established in the western country the raising of silk would soon become one of the usual employments of the people. On this subject we have often expressed our views, and the more we have reflected on it the more firmly are we convinced of their correctness: before filatures can be erected there must be a sufficiency of the raw material to operate on; as soon as there is a supply of cocoons, there will be filatures to work them up. It cannot surely, be expected that filatures will be erected before they have any thing to work upon! Who ever heard of a manufactory being established before the raw material was obtainable? Let the people of the west go to work and produce cocoons, and they will very soon find filatures enough to work them up.

THE PLANTER'S GUIDE.—We have read the book of Sir Henry Stewart on transplanting trees, with some degree of attention, and feel it to be our duty to add our testimony in its favor. So far as our experience in the transplanting of trees has gone, it has been entirely confirmatory of the theory and principles of Sir H. Stewart. His theory is, that trees of any age and size may be transplanted, provided they are not deprived of any part of their tops or roots; and that, if thus preserved entire, their failing to grow will be attributable to other causes than age and size, such as removal from the shelter of the forest to the exposure of the open field, &c. The principles on which he founds his theory are, that the sap is taken up by the small fibrous roots, conveyed to the stem of the tree by the large roots, to the branches by the stem and to the leaves by the branches; that it is elaborated by the leaves into nutritive matter, that this nutritive matter descends by another set of vessels through the branches and stem to the roots, supplying the several parts of the tree in its way down, and finally the roots, each with their respective portions of food. Consequently, that to deprive the tree of any of its roots, is to cut off a supply of the material of food, in proportion to the quantity of roots taken away; and to cut off any of the branches is to deprive it of a portion of its laboratory of food; hence, that when both roots and branches are pruned away, the tree must necessarily be deprived of nourishment in proportion to the extent of the pruning. This appears to be a very brief outline of this part of Sir Henry's theory and principles, though not repeated in his words. The following extract from the work will give the reader an idea of the application of the principles of Sir Henry:—"The 'mutilating method' is that usually resorted to of pruning branches and roots; the 'preservative method,' the one recommended by the author:—

"We will suppose that a planter, according to the mutilating method, is to remove, in an exposed situation, a tree eight-and-twenty or thirty feet high, three feet and a half in girth, (or fourteen inches in diameter) at a foot from the ground. We will suppose further, that it displays the most perfect symmetry of

form, having an expansion of top from five-and-twenty to eight-and-twenty feet, with boughs descending to within three or four feet of the ground. Such a tree we may consider as a very handsome subject, and such as has frequently been removed at this place.

"Having prepared the roots, according to Lord Fitzharding's method, three or four years before, and taken them up as well as he can, perhaps, seven feet out from the stem, (which, according to Marshall, is well rooted for its height,*) we will suppose that this planter then proceeds to lighten and lop the top, in order to reduce it, as the same intelligent writer recommends, "to the ability of the roots." We will, moreover, take it for granted, that he deals mercifully with this beautiful tree, and cuts away only a half, or a third part of its boughs, and thus transfers it to its new situation. Under these circumstances, we may presume, that some props or fastenings, whether of wood or cordage, may be requisite, especially about the equinox, to preserve the tree in an upright position. Now, will not all the evils, ascribed by Miller to the mutilating system, independently altogether of picturesque considerations, soon begin to assail it? Having the roots and top (which are both conservative organs,) curtailed and injured at one and the same time, the supply, not less than the preparation of the sap, is completely impeded. From the obvious want of leaves sufficient to elaborate the sap, and the equally striking want of branches to communicate nourishment to the stem, and ultimately to the roots, the whole tree in most instances becomes stunted and paralyzed. Pale and yellowish tints supply the place of a deep and healthful verdure of foliage, and the larger boughs, as well as the light spray, gradually decay and drop off. Even in cases which are the most eminently successful, and where the tree fortunately escapes these mischances, fifteen years, as I conceive it, in the best English climates, and twenty and five-and-twenty, at least, in the northern counties, and in Scotland, are scarcely sufficient to replace the amputations with fresh wood, and to restore the tree to its natural health and strength.

"What, we may, ask, have now become of its fine symmetry of form, its characteristic and ample top, "its happy surface (as Gilpin expresses it,) for catching great masses of light?" What also has become of the fair promise, which before removal it held out, of enduring vigor, and of sound and healthy wood? All these are gone, as Miller truly states; all are utterly annihilated, by the rude assaults of the axe, which has left no trace remaining of their existence! The most prominent and characteristic features of the species, which mainly reside in the top, have disappeared also by the same process: For even when such trees do succeed, and acquire the formal and bush like head, common to all that are removed after the mutilating method, "It is seldom," as Pontey observes, "that they harmonize with any thing about them." On comparing them with plants raised from the nursery, of the seed, we perceive, but a small saving of time in favor of this system: Yet it is time saved with the infliction of such evils, and the sacrifice of such advantages, as to render it any thing but desirable to the planter of taste.

"On the other hand, we will suppose the same planter to transfer a tree of similar description and dimensions, to a situation of similar exposure, but according to the preservative method. This tree, being a subject of uncommon beauty, as above described, and having a head of more than five-and-twenty feet broad, strong roots of fourteen and fifteen feet of a side (instead of seven,) are taken up with it, together with abundance of the minutest fibres, after a peculiar method, to be explained in the sequel. Instead of lopping and defacing the top and side branches, the whole are left untouched, and their fine symmetry is preserved en-

tire. Transportation of the tree to its destined site then follows: where, after being replanted according to a peculiar method also, productive of stability in an extraordinary degree, it is found capable of resisting the wind, on the simplest principles, namely, the acquired steadfastness of the stem, and the length and distribution of the roots, added to the balance of an extensive top, from whatever quarter it may blow.

"During the first spring, when the sap begins to flow abundantly upwards, if no severe frosts supervene, to cut down the slender spray of the top, not a branch or a twig is found to decay. The sap ascends, by means of adequate roots, in a sufficient quantity for the support of both, and for enabling the leaves to perform their elaborating functions. The leaves, therefore, though for obvious reasons of a lesser size, and sometimes a lighter color than usual, during the first season, universally clothe every part. After the first, or, at all events, after the second year, under common circumstances, the deep hood of health, and the fulness of leaf, which the tree formerly displayed, again returned; and, while its foliage glitters in the sunshine, or floats on the breeze, no eye can distinguish whether it has been two years or forty in its new situation. Picturesque effect or shelter, as the planter's object chances to be, is in this way obtained from the first: But no planter of experience will expect shoots of much consequence to appear, until the tree be established in the ground. This, of course, requires four or five years, at least in the climate of Scotland; after which, it usually shoots forth with vigor; and, the longer it stands, according to the preservative system, it will shoot with the greater vigor, as the experience of more than thirty years has incontestably proved. By this statement, then, it appears, that the system in question has, in this country, the power of saving, and in some sort of anticipating *fifty years of the life of man*; a large portion, in any view, of that uncertain possession: and thus, by following such a system, the immediate and full effect of wood is at once procured at a moderate expense, as shall be made apparent in the sequel.

"In this view of the two methods, I am not conscious to myself of having exaggerated the evils, or concealed any of the advantages, attendant on the mutilating system; at least, if the opinions of Miller, Marshall, Pontey, and other skillful planters and physiologists be well founded. Should any of my readers conceive, that I have too highly colored the delineation of the preservative, let them do me the honor to visit this place, and judge for themselves. Which of the two methods is deserving of the preference, I leave to the decision of the impartial. But I will take the liberty to add that, as I write chiefly for the practical, not for the speculative improver, probably those planters will be found to judge most candidly, in this competition between the systems, who have themselves tried the practice of the art."

FOREIGN MARKETS.

LIVERPOOL MARKET, Oct. 23.

The sales of cotton last week, were on a limited scale, 14,900 bales having found buyers, including 210 Sea Islands at 11s a 20d.; 40 stained, 8s a 10; 6,500 Upland, 6 5-8 a 7 7-8; 2,550 Orleans, 6 5-8 a 9; 3,190 Alabama, 6 5-8 a 7 5-8.

There was a fair business done in wheat last week, with an advance of 2s a 3s per quarter, but the market was heavy to-day, and lower prices submitted to by those who would sell. There are buyers of sour flour, in bond, at 15s 6d, but holders ask 16s per barrel. Tobacco is steady, and about 250 hhds. taken last week.

In the early part of the week, there were symptoms of more activity, but these did not continue, and it was evident that consumers purchased from necessity, not choice, although able to do so on rather better terms.

* Rural Ornament, Vol. i. p. 367.

† Rural Improver, p. 87.

AGRICULTURE.

OBSERVATIONS ON THE EMPLOYMENT OF SALT,

In Agriculture and Horticulture, with Directions for its Application, Founded on Practice. By CUTHBERT WILLIAM JOHNSON, Author of "An Essay on the Uses of Salt for Agricultural and Horticultural purposes, &c."

In the year 1820, when the attention of the public was first generally excited to the impolicy of the salt tax, by the late Sir Thomas Bernard, I published an Essay on the Uses of Salt in Agriculture, which has since been reprinted with many valuable additional testimonials, especially those of another valued correspondent, Mr. G. Sinclair, of New Cross, the author of the "Hortus Gramineus Woburnensis." But as it has been often repeated to me, that the farmer has little time for the perusal of long statements, I now offer to him a few observations which shall at least have the merit of brevity; being most anxious that so valuable a substance may be made known to, and employed by, the most practical, as well as the most scientific agriculturists.

I implore, therefore, the old English farmer's attention to the few following facts, for the sake, not only of himself, but of our country; and if he shall be led to try the very smallest experiment with this substance, (and an acre may now be manured with it for ten shillings), attending carefully to the directions of those who have gone before him; he will enrich not only himself, but the country which gave us birth.

It is needless to dwell upon the widely diffused presence of salt, or upon the inexhaustible mines of it, with which our country is endowed: all waters—all soils contain large or small traces of it; and there have not been wanting some philosophers who have contended that even rain water contains common salt; but they have perhaps mistaken one cause for another; they have given as a chemical fact, that which may be in reality a mechanical effect; the spray of the sea having, during storms, been carried even 120 miles inland, as M. Lœwenhoek, a Dutch philosopher, has very well demonstrated.

In the first ages of the world, salt could not have remained long unnoticed or unemployed; its inhabitants must have soon remarked that the animal tribes had a strong predilection for this saline mineral; as even the thoughtless savages of North America make the observation, that near to their salt licks, their game always abounds; and the Laplanders, to this day, bring their reindeer periodically to the sea side, for the sole purpose of drinking the salt water.

The brevity of some of the writers of the Old Testament has often and very justly been regretted. I cannot but consider as another object for this feeling, the short account given of the healing by Elisha, of the waters of Jericho, by means of salt. (2 Kings, chap. ii. verses 19, 22.)

It was the universal custom among the eastern nations, to irrigate their lands; and if the waters in the neighbourhood were unfit for this purpose, the soil, from the heat of the climate, was rendered unproductive. This appears to have been the case at Jericho, and to heal them, Elisha threw in salt. The smallness of the quantity added, could, in the natural course of things, have had no influence; whether he directed it to be often repeated, is not stated, nor is it material as regards the observations I have to make upon it.

The agent employed in these miracles had usually a typical meaning, or conveyed useful instruction—thus, when Moses healed the waters of Marah, (Exodus, chap. xv. verse 25.) he threw in the branch of a tree; which, although we are not told so there, yet afterwards is said (Ecclesiastical, chap. xxxviii. verse 5,) to have been done to inform the people of its sanative qualities.

Salt had been held up as the cause of barrenness, and had been sown by Abimelech, with that typical

representation, over the ruins of Sechem, (Judges, chap. ix. verse 4, 5;) it was now employed perhaps as a means of conveying the information, that in small quantities it produced a very different effect. I have thus early been induced to remark upon observations in the Old Testament, because I know that these, the earliest notices of salt being applied to land, are in the hands of every farmer, and are very justly looked upon, by him, as volumes from whose statements there is no appeal.

That salt was very early applied as a manure in the east, we have abundant testimony. "Salt," said our Saviour, in one of the addresses to his disciples, "is good: but if the salt have lost its savour, wherewith shall it be seasoned? it is neither fit for the land, nor yet for the dunghill, but men cast it out." (St. Luke, chap. xiv. verse 34.)

What was meant by salt losing its savour, has puzzled even some of that school whom Southey has, more emphatically than poetically, denominated the Satanic. Mr. Maundrel, however, in his journey to Jerusalem, has cleared up, in some degree, the mystery; for it appears that there is found in Syria, a peculiar kind of fossil or rock salt, which, in progress of time, by exposure to the air, though to all appearance as crystalline as ever, loses almost entirely its taste, except in the very centre of the lumps. How this is effected, it is perhaps difficult to explain; for it has not, to my knowledge, been subjected to chemical analysis, but it is probably a mixture of salts; for instance, crystallized sulphate of lime (gypsum) and common salt: the first quite tasteless, and nearly insoluble in water; it would consequently be very little altered by exposure to the dew, rain, &c. but the common salt would, in moist situations, readily dissolve away, leaving the remaining mass little altered in appearance; its savour would be gone, and the residual sulphate of lime little fitted either for the land or the dunghill.

In the works of the early writers upon rural affairs, we find little notice of salt as an agricultural agent. Virgil reprobates a salt soil; for he had probably observed, that where the sea overflowed its usual boundaries, vegetation was completely destroyed, and the poet paused not to consider what would have been the result had any other manure been applied in a similar excess—for instance, if an ocean of chalk and water had inundated the same land, and the suspicion that a small quantity might have quite an opposite tendency, was an idea too refined even for the court of Augustus. He says, however, that it must not be a salt soil; and in that conclusion every one will agree with him. He commends the use of salt for cattle very highly; as does Cato, the earliest of the writers upon rural affairs, whose writings have escaped us. Cato says, "sprinkle your best straw with salt, then to serve it for hay!"

Lord Bacon, who died in 1626, recommends its use for the garden.

Sir Hugh Platt, in 1658, bears testimony to its value for grass lands.

Frederic Hoffman, in 1742, and Dr. Brownrigg, in 1748, celebrated its importance as a condiment for cattle.

Amid, therefore, such an almost universal conviction of men of all ages and countries, as to the value of salt in agriculture, it may be perhaps inquired, why its general use has been so much prevented? one reason is sufficient in reply to such an apparent objection.

From the days of King William the Third to the year 1824, salt had been burthened with an increasing tax, hampered with restrictions, overwhelmed with prohibitions: but still, in spite of these burthens, the use of salt in agriculture never entirely ceased. Every ostler knew that it was good for his horses. The farmers of the west of England still used sea sand, as their ancestors did before them; for that was not under the control of the excisemen—that could not be warehoused.

The farmers in the neighbourhood of Padstow Harbour annually employ nearly 54,000 single-horse cart loads of sea sand, and they are so convinced of the superiority of this salted sand, that they prefer, says Dr. Paris, "sending four or five miles to the shore to obtain this calcareous sand, which has salt in it, although, at much less expense, they might procure drifted sand, which does not contain salt, at their own doors." (Johnson's Essay on Salt, page 30, second edition.)

Some farmers feel a great difficulty in believing that salt can be a manure; but let such be assured that almost all the most valuable manures are actually salts.

The intelligent farmer be told, that chalk (carbonate of lime) is known by every chemist to be a salt, and must he be told that gypsum (sulphate of lime) is another salt?

The fate of gypsum well illustrates the progress made and making by salt as a manure in this country. When gypsum was first proposed as a manure, it was at first laughed at and ridiculed, especially by those who knew least of its properties and powers; and then it was used for every thing and for every crop, in defiance of the remonstrances of its early advocates, who warned the agriculturist that it operated only as a *direct food* for some plants, and that only three commonly cultivated grasses contained it in sensible proportions—Lucern, sainfoin, and red clover, to which may be added the turnip. The failure, therefore, of gypsum, in the first instance, was general and complete; time, however, enlightened its enemies, for time polishes even a block of granite, and gypsum is now generally and scientifically used to these four crops only, for it does not, like salt, possess properties useful to vegetables of all kinds.

Phosphate of lime is another salt extensively employed in agriculture; for bone-dust contains of it 55 per cent. Every tiller of the earth knows that the ashes of the soap-boiler abound with salts of various kinds, both of soda and potash.

And let me ask, what but the presence of twenty different salts (common salt among the rest) makes the urine of animals so valuable as a fertilizer?

And what would be the value of the largest dunghill, so justly splendid in every farmer's eyes, without the presence of these salts? would it be of more value than so much tanners' bark or peat? and does not every farmer know what Lord Meadowbank has so ably illustrated, that even inert peat becomes a manure by being putrified and mixed with the salts of the dunghill?

I have elsewhere endeavoured to prove that salt is a manure to plants in six different ways, and I refer the farmer to my Essay on Salt, for the proofs and illustrations. 1. By *promoting*, in *small proportions*, putrefaction. 2. By destroying weeds, grubs, &c. 3. As a constituent, or direct food. 4. According to Dr. Darwin and Dr. Priestley, as a stimulant to the absorbent vessels of plants. 5. By preventing injury from sudden transitions in the temperature of the atmosphere. 6. By keeping the soil moist. In this tract, however, I have no intention of entering into such detail, nor is it perhaps requisite, though always useful, that the farmer should in every case understand the chemical process he is daily witnessing, or the laws by which he cultivates the earth.

WHEAT.

Whoever makes trial of salt as a manure, must be attentive to the rules laid down by those who have for years employed it for such purpose; otherwise, without any beneficial result, every experiment will merely serve to prejudice others against its more judicious employment.

Salt, it should be remembered, *rarely causes the wheat plant to grow larger or taller*, but it fills up the ear better, and brings the weaker plants forward. We have it on the authority of Mr. Sinclair, that "salt appears to lessen the produce of straw, and increase

the weight of grain." I have never been able in my experiments, or any I have witnessed, to see any increased quantity of straw, even in cases where there was an increased produce by means of salt, of six bushels of wheat per acre.

I cannot enforce this too much upon the attention of the agriculturist. Let not the farmer be deceived by appearances; let him have the salted and unsalted portions, at harvest time, carefully separated and examined by weight, if the plots are small, or measure will answer if extensive. A few square rods, or even yards of each, will be sufficient; and I have no hesitation in saying, that he will find the result highly in favour of salt. But if, on the contrary, after having carefully applied salt to *half* of the field, he judges at harvest time merely by his eye, in such an unfortunate case, let me request of him, for his own credit's sake, not to mention his experiments upon salt manure; how carefully he tried it, and how complete was its failure: let him be assured that such modes of investigation, though very common, are worse than useless to the agriculturist: are marks of obstinacy and presumption to be excused only on the plea of ignorance.

Let the salt be applied some time before sowing the seed, not less than ten and not more than twenty bushels per acre. I regret that I cannot transcribe from my Essay on Salt, the experiments of Mr. G. Sinclair upon wheat, (page 39.) they are too numerous for this, and too valuable to be mutilated by an abridgement.

In my own experiments upon a light gravelly soil, at Great Totham, in Essex, the use of twenty bushels of salt per acre, (in 1819,) produced an increase of five bushels and a half per acre.

The following statement of the result of some trials in 1820, will show how important may be the result to the country at large, by its judicious application. I regret that incessant employment of a very different nature has hitherto prevented my continuing these experiments.

PRODUCE PER ACRE. Bbls. lbs.

- No. 1. Soil without any manure, for four years, 13 26
2. Soil manured with stable dung to the previous crop (potatoes.) - - 26 52
3. Soil with 5 bushels of salt per acre, and no other manure for four years, - 26 12

The soil light and gravelly.

The testimony of a plain Essex farmer may have some weight in corroboration of my own, even with the most suspicious. "The soil," says Mr. James Challis, of Panfield, "that I described to you to be of rather a loose hollow description, had a dressing of salt put on it in November after the wheat was sown, about fourteen or fifteen bushels per acre: it produced at the rate of six bushels per acre more than that which was not dressed, and it may be stated to be £1 per load of forty bushels better in quality."

Another Essex farmer, the late Mr. Baynes, of Heybridge, had his doubts removed by the result of the following experiment—the soil "a sandy clay:"

PRODUCE IN BUSHELS. Per acre.

- | | |
|---|-----|
| Soil dressed with 15 loads of stable dung per acre, - - - - - | 174 |
| Soil dressed with 14 bushels of salt per acre, immediately after the seed was sown, - - - - - | 364 |

I select these statements from a host of others, which the unsatisfied farmer will find in my Essay, because these experiments were made by men prejudiced against the trial of salt as a manure: they had not been taught by any theoretical reasonings; and supported as they are by the experiments of Mr. Sinclair and numerous others, they form a mass of evidence totally incontrovertible.

It is a custom in most counties of England to apply salt and water as a steep to prevent the ravages of the disease in wheat, called smut: the value of this is

known to almost every farmer. Recent experiments have suggested that it may even be of use, when employed in larger quantities, as a preventive of mildew—the most dreadful of the numerous diseases to which the cultivated grasses are exposed. The experiments of the late Rev. E. Cartwright strongly evidence, that when salt and water is sprinkled with a brush upon diseased plants, it is actually a complete cure, even in apparently the most desperate cases. (See Essay on Salt, p. 49.)

"The proportion, one pound to a gallon of water, laid on with a plasterer's brush, the operator making his casts as when sowing corn: it is instant death to the fungus." The time and expense is trifling.

It appeared in the course of some inquiries made by the board of agriculture, that a Cornish farmer, Mr. Sickler, and also the Rev. R. Hoblyn, were accustomed to employ refuse salt as a manure, and that their crops were never infected with the rust or blight.

BARLEY AND OATS.

Apply from ten to sixteen bushels per acre just before you sow the seed.

Mr. Legrand, a Lancashire farmer states, in a sandy soil I can assert sixteen bushels to be a proper quantity for a statute acre; it gradually advanced in its beneficial effects to sixteen bushels, and as gradually diminished to four bushels where vegetation was stopped.

A Suffolk farmer, Mr. Ransom, of Sproughton, also says, when speaking of his experiments on a light sandy soil, "The barley thus dressed, presented no difference of appearance to the rest of the field, until within a fortnight of harvest; the salted crop was then brighter, and about one week forwarder than the rest of the field." The following are the results when carefully cut and measured:

PRODUCE IN BUSHELS. Per acre.

- | | |
|--|----|
| Soil without any manure, - - - - - | 30 |
| Soil dressed with 16 bushels of salt per acre, in March, - - - - - | 51 |

Were these gentlemen, too, deceived in their experiments? Had they both the misfortune to be in error?

Mr. Sinclair's experiments are unfavourable to the use of salt to oats, as far as they were conducted; but he unfortunately only tried it in the much too large proportion of forty-four bushels per acre, at the time of inserting the seed.

A Warwickshire correspondent, in the Farmer's Journal of Oct. 23, 1820, says, that on a soil worn out with bad tillage, salt, applied a short time before inserting the seed, caused a surprising produce; whilst another part of the same field, manured the previous year, produced a much inferior crop. (Essay on Salt, page 62.)

Six bushels of salt per acre were applied by hand, in April, 1828, to a field of oats attacked by the slugs and worms, on the farm of Mr. John Slatter, of Draycote, near Oxford. The crop was completely saved by this application, although an adjoining field, not salted, was completely destroyed by the same vermin.

What answer can be given to this statement of a plain practical farmer? Is half a crown's worth of salt too dear an application to save an acre of corn from utter destruction? Must the worms still be suffered to devour annually thousands of acres of corn, and the farmer yet regard the employment of salt with all the apathy of indolence?

TURNS, MANGEL WURZEL, &c.

I select from my latest communications the following from Killerton, in Devonshire. In a letter dated August 26, 1826, Sir Thomas Acland, bart. favoured me with the following statement from his bailiff—"The first experiments I made of salt for manure was on seven acres of land for mangel wurzel. I first heaped out the field with earth, forty heaps to an acre, as is usually done for lime: I then put in each heap thirty-three pounds of salt, and mixed it well

with the earth, and let it lie a fortnight before I spread it over the land: after that I ploughed the land three times before I sowed the seed, and I had roots there 32 lbs. each. Since that time I prepared a field of five acres in the same way for turnips, one-third part of the field with lime, one-third with salt, and the other part with hearth ashes. When the seed came up first, the turnips appeared most promising where the hearth ashes were; but after the first month, the turnips did not grow so fast as where the salt or lime was; after that time, the turnips, where the ground was manured with salt, grew faster, and the green looked stronger and darker, and at the end of the season was the best crop.

"The next year I put the field to barley; and where the salt was put, it was the strongest and best crop. After that time, it was a great deal heavier to work; therefore I consider it a good manure for light sandy soils, but not calculated for clay or heavy lands."

Mr. Hare, of Beaconsfield, in Buckinghamshire, uses salt regularly. In 1822, on one acre of a large field—the soil very gravelly, he applied about two cwt. of salt, without any other manure; the rest of the field was manured as usual. The turnips produced on the salted acre were just as good as on any other part of the field. In the following year, on another field of the same quality, he manured the whole field with farm-yard manure, adding to one acre of the field 24 cwt. of powdered rock salt. On this salted and manured acre, he had more and finer turnips than were produced on any other field of equal extent in the whole parish. He approves of it also very decidedly for barley.

(To be continued.)

(From the New England Farmer.)

THE IMPORTANCE OF MANURE.

Too much cannot be said upon the subject of manure. The vast importance of this article has not been sufficiently attended to by farmers in general, although it is the principal source of their riches. Without it, after all their care and labor, they can have but miserable crops of grass, flax, corn, &c. A man must plough, hoe, mow, rake and hire, more on poor, than on rich land; and it will take a much greater number of acres to support his family comfortably. And it requires the same quantity of seed, is much harder to till, and is taxed the same as rich land; and after all produces not one-half the profits. Every farmer, therefore, who wishes to reap the fruits of his labor and care; to improve his lands and increase his substance; and to live easy some future day, should carefully attend to the increase of his manure.

And here I would observe, that the hog-sty, properly attended, will be found to be one of the greatest and richest sources of this important article. Almost any quantity may be obtained from it; provided the farmer will be as careful to feed the sty, as the swine confined in it. All kinds of weeds, potato tops, straw, pomace, broken peat, dressing of flax, butt-stalks, roots and vegetables of every kind, will soon become the richest of manure, when thrown into the hog-sty. Three or four swine in this way, will make twelve or fifteen loads in a year; the value of which, where dung is scarce and dear, will be four pounds at least. Several judicious farmers of my acquaintance, are persuaded that the greatest profits in keeping swine, arise from their stys. A small proportion of this manure, mixed with soil and rubbish, would be seen in a field of potatoes, or of Indian corn. And the quantity to be made in one sty, well supplied with weeds and other vegetable substances through the year, is almost incredible; some have said, that "forty loads" may be obtained in this way, from ten, or twelve swine, in one year only. And great quantities of excellent manure for dressing grass land, may be obtained by ploughing, or cutting up green sward two or three inches thick, by the sides of roads,

walls, &c. and laying it in heaps, grass side down, for eight or ten months. A little lime mixed with it, would render it fit for use much sooner.

One would think, that a farmer who mows over three or four acres of land, naturally good, but worn down, and which yield not more than fifteen or twenty hundreds of hay—who cultivates as many acres of Indian corn, on a soil equally as good, but starved and exhausted, and which return him sixty or seventy bushels only; when he looks into the fields of his neighbor, which are not better, if quite so good, in point of soil, but which are richly manured, and yield three times the crops yearly, must be convinced of the vast importance of manure; and of the amazing advantages to be derived from this great and capital article in the cultivation of the earth. The Chinese, who may be styled a vast nation of farmers, as agriculture is their most honorable and their principal employment, pay the greatest attention to it. The urine of families is all carefully saved; and the refuse of every kind of vegetable substance which the earth produces, through their labor and care, is made to contribute to reproductions. And, as very little can be done in the farming line, in the states of New England, without manure, excepting new lands, which from the general deluge have increased in richness, by the falling of leaves, and other substances scattered on their surfaces, it ought to be considered and attended to most carefully. And there can be no judicious farmer among us, who does not endeavor to obtain large quantities of this article, in proportion, if possible, to the proposed cultivation and improvements of the next year.

We read, that the lands of the rich man brought forth plentifully, but this was not merely because the possessor was rich; for, the lands of the wealthy, will be no more productive, than those of the poor, if they neglect to manure and cultivate them properly. The truth is, a plenty of manure, and a judicious seasonal cultivation, will soon put a new face upon almost any lands whatever. And if farmers in general would pay more attention to the increase of their manure, they would experience a decrease in their labors, and receive a much greater profit from them. A few acres of good land richly manured and highly cultivated would support their families comfortably. And there is scarcely any soil, but which, by these means, would give a prudent man a decent living. And that farmer in this state who will not give his attention to this subject, cannot reasonably expect any great profits from cultivating the earth, nor to become respectable in his profession.

HORTICULTURE.

MR. SMITH:

Washington Dec. 4, 1832.

Sir,—I have the honor to send herewith, a highly interesting article on the subject of planing the teak wood, in this country.

The Secretary of the Treasury, in pursuance of a resolution of Congress, obtained a quantity of the seed of this tree, which he is now distributing through the country. The enclosed article will be highly interesting to your readers.

I am, with great respect, your most ob't serv't,

JOSEPH M. WHITE.

TEAK TREE, OR INDIAN OAK.

Washington City, November, 1832.

To the Secretary of the Georgia Agricultural Society:

Dear Sir,—Your favor of the 5th September, communicating the intelligence of my having been elected by the Directors of the Georgia Agricultural Society, one of their corresponding members, reached me in due course of mail, and would have received an earlier reply but for the pressure of my engagements, and a desire to make some other return for the honor bestowed on me, than barren thanks. Be pleased to

make known to the directors my acknowledgments for this mark of kind recollection, and assure them of my readiness to co-operate with them in promoting, by every means in my power, the laudable object of the society.

No one can be more deeply sensible than myself, of the dignity and importance of agriculture: none more desirous of contributing in however small a degree, to advance the most essential of human employments. My own experiments as a planter, however, have been far too recent, and too little under my personal inspection, to allow me the slightest hope of presenting any hint, which experience has suggested, and a salutary dread of mere theory will always prevent my offering any other.

Perhaps the only way in which, for some time at least the society can derive any benefit from my exertions; will be by the transmission of foreign seeds or plants, which our government now occasionally receives through its officers, in consequence of a recent resolution adopted by the House of Representatives.

It will at all times give me great pleasure to furnish you with any of these which may promise to be useful, accompanied by such information respecting them, as comes within my reach.

As a commencement, you will receive herewith a packet of seeds of the teak tree, (*tectona grandis*.) the timber of which, is the most valuable of any known in India.

I might have sent them somewhat earlier, but the department not being in possession of those facts respecting the tree which it was most desirable to ascertain, my letter was postponed until an opportunity occurred of collecting them myself, as it would, of course, have been far less acceptable to you to receive the seeds alone.

What I am obliged to send you at last, is simply an abridgment of my extracts from various travellers or naturalists, whose works are not readily accessible to you in Georgia. It is a subject of much regret to me, that even here so little is to be met with concerning the proper soil, climate and cultivation of the tree.

Nor is it the first time I have longed for a good *Sylva*, designating the native country, favorite soil, exposure, and temperature, and the best means of acclimating all the fine forest trees; including of course, some account of the attempts, successful and unsuccessful, to transplant and naturalize them, and the geographical limits within which they are at present found.

For want of access to such a work, if one of the kind exist, this notice of the teak will be found exceedingly meagre; yet to collect it, such as it is, more labor has been bestowed and more volumes consulted than you would readily believe.

I have the honor to be, very respectfully, your most obedient servant,

RICHAED HENRY WILDE.

BOTANICAL DESCRIPTION.

TECTONA. Class and order, *Pentandria*, *Monogynia*. Nat. Ord. Personate, Linn. Vitices, Juss.

Gen. ch. *Cal.* Perianth inferior, of one leaf, bill shaped, its margin in five, occasionally six ovate, blunt segments, permanent.

Cor. Of one petal, funnel shaped; tube shorter than the calyx; limb in five, occasionally six, deep obovate, crenate segments, incurved at the point, twice as long as the tube. Nectary, a glandular ring at the base of the germen.

Stam. Filaments as many as the segments of the corolla, inserted alternately therewith into the tube, decurrent, thread shaped, erect, rather longer than the limb, anthers heart shaped, two lobed, erect.

Pist. Germen superior, nearly globular, downy; style thread shaped, downy, slightly curved, the length of the corolla; stigmas two, revolute, obtuse.

Peric. Drupa nearly globose, depressed, dry, spongy, hairy, concealed in the enlarged, inflated membranous calyx.

Seed. Nut bony, the shape of the drupa, with a terminal knob of four cells with solitary kernels.

Ess. ch. Corolla five cleft. Stigma divided. Drupa dry, spongy, within the inflated calyx. Nut of four cells.

Obs. The terminal flowers are often six cleft.

GEOGRAPHICAL DISTRIBUTION.

TECTONA GRANDIS: Teak wood or Indian oak. Its geographical distribution is comparatively limited.

It is found, I believe, only in Asia and Africa between the tropics. In Asia, between China and Persia, being confined to the southern peninsula of India; India beyond the Ganges to the southern frontier of China, the islands of Ceylon and Java, and one or two others of this great group. It is most abundant in Malabar, Pegu and Java. That of Malabar is said to be the best. It exists on the western coast of Africa between the tropics, but I am unable to fix its precise locality or limits there. All I can at present ascertain, is, that it forms one of the exports of Sierra Leone. Java is the only island of the Archipelago in which it abounds. It is found in smaller quantity and of inferior size in the island of Madeira, in the islets to the east of it, in Bali, Sambarra and Butung, the last being its farthest limit to the east. In recent times it has been introduced into Celebes and Amboyna. The illustrious naturalist Rumphius introduced it into the latter from Madeira in the year 1676. It is not indigenous in the Malayan peninsula, in Sumatra, or in Borneo. Of late years a few teak plants were introduced into the Malayan State of Queda from Siam, and propagated with some success. By later accounts it appears to have been discovered in the forests of Sumatra, in the kingdom of Aekin. It is suspected that the few trees there are exotics. Pegu affords a large quantity of teak timber which is brought down the rivers. The most abundant supply is, however, apparently derived from the Malabar and Coromandel coasts. A great deal is brought down the river Godavery which empties into the bay of Bengal in about lat. 16—I have not been able to discover that it exists either native or exotic, in South America, the West Indies or New Holland. According to Corderon, it flourishes well in Ceylon where large plantations of it are to be seen. By some persons there, it is said to have been introduced by the Dutch, by others to have been found growing wild in the woods near Trincomaly.

POPULAR DESCRIPTION.

The teak tree is of a stately appearance, having a large trunk growing straight to the height of seventy feet, a great number of branches and broad leaves. The branches are spreading and opposite, crossing each other quadrangulary when young. The leaves are spreading, opposite, stalked, elliptic, oblong, acute, entire, slightly waved, with one rib and many transverse veins whose subdivisions are finely reticulated; their upper side rough like a file; lower finely downy, their length is generally about a span, but the leaves on young branches sometimes measure eighteen inches or two feet and nearly half as much in breadth. *Panicles*, terminal, hoary, very large and spreading, repeatedly subdivided in an opposite manner with lanceolate *bractees*. *Flowers* very numerous, comparatively small, being scarcely half an inch long; externally hoary, internally yellow. *Fruit* the size of a small cherry, rough, brown, in a large, membranous, brown bladderly calyx, resembling the *Physalis alkekengi* in general shape but hardly so large. In Java the teak blossoms in the dry weather, and the fruit forms in November immediately before the setting in of the heavy rains. It rises to the height of from eighty to one hundred feet, and is said to take as many years to come to maturity. It has been known to attain a diameter of five, six and even eight feet. It is one of the few trees which in these equatorial regions shed their leaves at once

like those of temperate countries. It is found both in the plains and mountains, though in the latter not above three or four thousand feet above the level of the sea. The wood of the mountain teak is hard but stunted in its growth, that of the plains less firm but larger. This has also been observed of the mahogany of America. It grows in extensive forests and when on favorable soil is said to exclude every other tree. Though it grows abundantly on the hilly country below the Ghaut mountains, it is said to require a rich soil. In the least fertile part of Java, it either does not exist at all, or in small quantity and of puny growth.—The great forests of it in that island are in the rich central districts.

Dr. Buchanan in his journey through Mycene, Carara and Malabar, performed by order of the Marquis Wellesley, when Governor General of India, for the express purpose of investigating the state of the arts, agriculture and commerce of those provinces, remarks, in relation to the forests in the southern part of Malabar. "The most valuable production of these forests, however, is their timber, of which there are several good kinds; but the *teak* is by far the most valuable. To the increase or preservation of this, little or no attention has been paid; but about two years ago, an order was issued by the commissioners, prohibiting any trees from being cut that were under certain dimensions; and trees of the regulated girth, are said by Mr. Warden to be too heavy for the native carriage. These forests possess a great advantage, in being intersected by many branches of the *Panyani* river, which in the rainy season are large enough to float the timber down to the sea. All the hills near the river seem naturally fit for producing the *teak*; and with a little pains, in the course of time, very valuable forests of that excellent tree might be reared. All that would be required would be to cut down every other kind of timber allowing the *teak* to spring up naturally, which it will every where do, and to enforce the commissioners' regulation concerning the size of the trees. In the course of fifty or sixty years, very excellent forests might thus be formed near water carriage, very much to the advantage of their proprietors and the nation: but these people are so ignorant, that without compulsion, it could not be expected that any such plans could be carried into effect. At present every man who chooses to give the landlord a *Panam* may cut down a tree, and all the valuable trees being cut, while the useless ones are allowed to remain and come to seed, the consequence is, that in all places of easy access the valuable kinds have become almost entirely extinct."

USES AND QUALITIES.

There are several varieties of the *teak*, which with the difference produced by soil, will account for some diversity in the descriptions of the quality of the timber. All agree, however, in representing it as the most useful wood known in Asia. Dr. Roxburgh says it is light, easily worked, and, though porous, both strong and durable. For ship building he adds it is peculiarly excellent for its lightness and durability in or out of the water. The same author mentions that the banks of the *Godavery* river in Hindostan afford a *teak* which is beautifully veined, much closer in grain, and heavier than usual. This sort is peculiarly fitted for furniture and gun carriages.

Cordern says, that on account of its extensive utility, the *teak* is styled the pride of the eastern forests. Harder, more durable, and working more kindly than the oak, it bears the intense heat of the sun without splitting, and resists the attacks of the sea worm and all other vermin.

Some errors may be suspected in this report of its qualities however. It is difficult to conceive that it should be harder than the oak and yet work better, and Cordern also represents it to be heavy, while more accurate writers call it light. Its wonderful durability all admit. Hence it is admirable for ship building. "Many ships," says the author last quoted,

"have been built of it in Bombay. Some of them are now so old that no one living can remember when they were launched. The heaviness of the wood however has been thought to be in some respects the cause of their dull sailing." We shall see hereafter that the fact and the hypothesis built on it are more than doubtful. The wood is not heavier than the oak, though some kinds are heavier than others, and *teak* ships that are dull sailers have probably been constructed on bad models.

Forbes, in his Oriental Memoirs says, "*Teak* is more durable than oak, from its oleaginous quality, preserving the wood and the iron used in naval architecture. The author saw a ship at Surat, which had been built nearly eighty years, and which, from veneration to its age and long services, was only employed on an annual voyage to the Red Sea to convey the Mahomedan pilgrims to Jeddah on their way to Mecca, and then returning with them to Surat after the *hedge* [Q' Hadje] or religious ceremonies were over, the vessel was oiled and covered up on shore until the next season.—According to Crawford, the *teak*, as compared with the oak, is equally strong, and somewhat more buoyant. Its durability is more uniform and decided, and to insure that durability it demands less care and preparation, for it may be put in use almost green from the forest, without any danger of dry or wet rot. It is fit to endure all climates and all alternations of climate. The oak on the contrary cracks and is destroyed by such alternations, and particularly by exposure to the rays of a tropical sun. The oak contains an acid which corrodes and destroys iron; the *teak* not only has no such acid but even contains an essential oil which tends to preserve iron. The great superiority of the oak over the *teak*, consists in its utility in the fabrication of vessels for holding liquids. The strong odor which the *teak* imparts to all liquids which are solvents of the essential oil, in which that odor is contained, makes it unfit to be used for holding them. It makes good water casks, but is unfit for holding wines, or any spirit but arrack, to which it communicates some of that peculiar flavor which some persons affect to relish.

In a very recent work it is said that the *teak* is light, easily worked, and though porous, strong and durable. It is easily seasoned and shrinks but little. Malabar *teak* is deemed superior to every other, and is extensively used for ship building at Bombay. *Teak* ships of forty years old and upwards are not uncommon on the Indian seas. Some men of war have been built of *teak*, and have answered exceedingly well, except that they are said to be rather heavy sailers; but as *teak* timber is light, this has probably been owing to some defect in their form."

A recent article on ship timber in the United Service Journal speaks highly of the *teak*. Besides the other excellent qualities all have attributed to it, and which it is unnecessary to repeat, the writer says, "The variety of it called *piccon*, from its mild and straight grain, is very superior for masts to Jablanas, Riga, American, or indeed any other known wood; the weight is against it for topmasts; but we were in a ship, where on the suggestion of the well known *Jensatjee Bonanjee* it was tried with success: "If you get it aloft" said he, "it will never go without the lower masts." He adds, "we remember seeing at Bombay a fine country ship, of about five hundred tons burthen, which was constructed of *teak* upwards of forty years before, and was then found to be in perfect condition, and without the slightest weakness or ailment. We ourselves sailed in a frigate built of this material, for four years in various stations, and upon arduous service, which would have destroyed any of our contract ships, and yet we left her as sound as a new ship. In 1811 the *Dover*, a less substantial *teak* ship than the one just alluded to, was driven on Madras beach, and stranded, during a

furious gale of wind. So strong was the vessel, that she laid in the overwhelming surf several months perfectly entire, and in a part where few European ships would have held together for a week: carpenters were then employed at a great expense to break her up, but the work proved so difficult that they were at last obliged to blow her to pieces with gunpowder."

TEAK TIMBER TRADE.

Teak may be exported in large quantities from Java, such is the extent of the forests of it in that Island. Besides compass and crooked timber, it is reckoned that these forests, without any injury to them, may annually afford 50,000 heams for ship building and exportation, and supply the demand for small timber for house building and native shipping besides.

The price paid for *teak* timber by the dutch government in former times was at the low rate of about 4s 7½d sterling per load. This was, however a forced price, the timber being delivered as an assessment. Any additional quantity was paid for at 50 per cent. advance on this. The government sold the timber thus cheaply obtained at a monopoly price, taking advantage of the necessities of the public, and necessarily excluding all fair and regular traffic. The trade was, during the British time, offered to private speculation, and large quantities of it were sent to the market of Bengal, where it competed successfully with that of Pegu.

The established price as fixed by the government, whose property the forests are, were then as follows: Straight squared timber was sold at an average of £5 per load. A mast piece, 60 feet long by 17 inches in diameter, was sold for £7 14s 4½d per load; and one of 100 feet by 32 inches diameter, for £12 2s 5d; planks, or rather what is called in the language of the Indian ship builders, *Skabin*, being planks hewn out of the solid beam by the adze, were sold at the rate of £5 14s per load; and pipe staves at £2 2s 9d per thousand.—The existing administration of the island has again restricted the trade, and the timber is now sold 200 per cent. dearer than when the island was in the British occupation.

Under the British administration, some ships wholly built of *teak*, were constructed by British ship builders. In the year 1817 it was estimated that the hull of a ship, well fastened and sheathed with copper, could easily be constructed at the rate of £12 per ton!

According to Forbes, a few miles from Calicut, is a small seaport called *Vapura*, on the banks of a river where vessels are built of *teak*, and a quantity of the wood exported.—The trees are felled on the Ghaut mountains, transported to the river by elephants and floated down to the river season!

Teak wood, as Thunberg reports, brought a considerable price at the Cape of Good Hope, on account of its great utility in a country where large timber trees are rare.

Dr. Buchanan, on the authority of Mr. Warden, computed in 1800, that the forests on the branches of *Panyani* river, in the southern part of Malabar, before mentioned, could supply between four and five thousand *candies* of *teak* annually; but that could only be done by a large body of trained elephants, an expense, far beyond the reach of individuals, and only to be undertaken by the company. The *candy* of *teak* timber, when seasoned, measures 104 cubic feet.

In 1829 there were imported into Great Britain from the western coast of Africa, that is to say from Sierra Leone, the river Gambia, and the coast between the Gambia and the Mesurado, sixteen thousand and fifteen loads* of *teak* timber valued at a little up-

*The following are the contents of the load of timber of different kinds:

A load of timber unhewn	40 cubic feet.
" square timber	50 "
" 1 inch plank	600 square feet.
" 1½ inch plank	400 "

*McCulloch's Commercial Dictionary, 1832.
†1831, part II.

wards of £10,000. In the same year the only other imports of teak were 421 loads from the East India Company's territories and Ceylon, and 463 loads from ports in the Burman empire. In 1830 I do not find the quantity of teak imported. The amount of duties levied on it was about £11,000.*—The teak timber from Java is said to be better than that of Pegu or the Burman empire, but inferior to the Malabar. The relative quality of the African teak I have not been able to learn. In 1821 some seeds of the teak were received in the United States, as is mentioned in the American Farmer. Whether any of them ever grew or not is unknown to me.

LIST OF AUTHORS QUOTED.

- Rees's Cyclopaedia, article "Tectona," vol. 36.
Description of Ceylon, by James Cordener, published in 1807. London. Refers to a residence between 1799 and 1804.
Forbes' Oriental Memoirs, vol. 1, published in 1813. London. The author lived in India between 1765 and 1780.
Crawford's History of the Indian Archipelago, published in London in 1820, from materials collected in 1808, vols. 1 and 3.
Percival's Ceylon. London, 1805.
Marsden's Sumatra. London, 1811.
Buchanan's Mysore. London, 1807. The journey was performed in 1800 and 1801.
McCulloch's Commercial Dictionary. London, 1832. Articles Teak, Timber, Sierra Leone
United Service Journal, 2d part for 1831, pp. 459 and 460.

(From the Genesee Farmer.)

IMPROVEMENTS IN HORTICULTURE.

Main street, Rochester, Sept. 28, 1832.

Having lately made an extensive tour in this state, with a view of ascertaining what might be considered the most advantageous locality for establishing a nursery business, it was a natural consequence I should make it a principal object to ascertain the present state of horticulture in the different places I visited, and it affords me the greatest pleasure to state that the result of my inquiries and observations have convinced me beyond a doubt, that that science is progressing in a very rapid degree. Many gentlemen have done themselves great credit, by the time, trouble and exertions they have made to enrich their gardens with the best and most approved fruits which could be obtained, and with which many of the American nurseries are now richly stocked. It is by a spirited perseverance in this object, that the bad fruits will soon give way to more approved and deserving sorts, and the full advantages secured which this climate so favorably presents for maturing some of the most delicious fruits, which, in the old country, (meaning Great Britain) can only be accomplished by great labor, assiduous attention, and considerable expense. It is most astonishing what a short period has accomplished, in altering the features of ornamental, as well as the more beneficial branches of gardening, in this country; and the censure implied by Mr. B. McMahon, in his *American Calendar*, is most assurdly by no means applicable at the present day. He wrote, "America has not yet made that rapid progress in gardening, ornamental planting, and fanciful rural designs, which might naturally be expected from an intelligent, happy, and independent people, possessed so universally of landed property, unoppressed by taxation or tithes, and blest with consequent comfort and affluence." How the citizens of the United States have at the present day raised

A load of 2 inch plank	300 square feet.
" 24 inch plank	240 "
" 3 inch plank	200 "
" 3½ inch plank	170 "
" 4 inch plank	150 "

* The duty on African teak in England is £7 to £8 a load.

themselves above meriting these assertions, the most superficial observer can fully testify, by an examination of the gardens from the most northern limits (I speak of Massachusetts and Maine from report) to the extreme of Georgia, where I found some of the choicest and most extensive collections of plants I had ever seen collected in so small a compass.

PRUNING THE VINE.

In my recent tour, I found many individuals have made great progress in the cultivation of the grape vine, and in several places I visited, with considerable success; but there is one point in the arrangement of the vine, on a due attention to which much of the result most depend, and which I have seen in a great measure, is totally neglected, indifferently attended to, or performed in a manner more injurious than if solely left to nature. I allude to the *summer pruning* of the vine. It is a very erroneous idea to imagine that a spring pruning is all that is necessary for the grape vine. It is during the period of growth in summer, that the future tree must be formed, and a good crop for the following season secured; consequently a considerable degree of pre-arrangement and forethought must be put in requisition, during the early growths of summer. It is in the summer the judicious pruner must premeditate how he shall prune, and where he shall cut in the following spring; and nothing can be more effectually in his power, as respects fruit trees, than this with the vine, on account of its rapid growth and docility. All that is required is frequent examinations of the vines, as they make their young wood, and regularly divesting of all extraneous parts, as soon as they have made their appearance. To enable the uninitiated operator to decide what are *extraneous parts*, the following hints may be of service: After the first growths are made and shown all their fruit for that season, a due proportion of shoots must be selected for the production of a crop next season, and for the regular formation of the future tree. These are to be allowed to remain until they have elongated to the necessary length, which existing circumstances and the judgment of the operator only can determine.—Having made these selections, all the others that have no bunches on them are to be rubbed off with the finger and thumb, (never applying a knife for summer pruning, as when that instrument would be requisite it is a convincing proof that the operation has been too long deferred.) Those shoots bearing fruit are to be pinched off, or *shortened back*, as gardeners term it, within one joint of the cluster nearest to the point of the shoot; and having thus properly regulated the vine every future lateral is to be detached as soon as they make their appearance during the remainder of the season, by which means the vine will be divested of gross incumbrances, and a beneficial portion of light, and a free circulation of air will be admitted among the young wood, and the whole strength of the tree concentrated in its proper channel, thereby producing strong fruitful shoots for the following season, and adding greatly to the size of that present crop.

I now offer a few remarks on a mode of summer pruning which I consider highly detrimental;—namely: divesting the vine of shoots and leaves at perfect random; thus injuring the vine for future crops, and very materially injuring the existing one. All the leaves must be allowed to remain on the shoots selected. It requires but a very superficial acquaintance with the principles of vegetable physiology to convince us of the impropriety attendant on divesting those parts of the vegetable structure, which have functions to perform, of the members by which those functions are to be accomplished; and it is a generally admitted fact, that the process of elaborating the sap is chiefly operated in the leaf—the leaf is therefore absolutely essential for maturing the fruit of the present season, as also for perfecting the bud from which the bearing branches of the following season are to emanate. The late Sir Humphrey Davy justly

remarks, "The production of the other parts of the plant takes place at the time the leaves are most vigorously performing their functions;" consequently, by depriving the tree of this most essential organ, its immediate death, or, at all events, its slow destruction, must inevitably ensue.

Respectfully, ALEXANDER GORDON.

RURAL ECONOMY.

(For the Genesee Farmer.)

MANAGEMENT OF BEES.

An old and much respected friend of mine seemed interested the other day, with some imperfect accounts which I gave him of the method of keeping bees in garrets. One of his questions, however, I was unable satisfactorily to answer; but took the liberty to say that if he would subscribe for the Genesee Farmer, which contains several notices of the subject, I would write to the editor, and respectfully request him or some of his correspondents, to furnish the information wanted. Two dollars accordingly were placed in my hands for one year's subscription; and it now devolves on me to redeem the pledge.

The difficulty was this: In the chamber which the bees inhabit, a door is necessary for the purpose of taking out the honey, and it is recommended to keep this locked. Now what is there to prevent the bees from sealing up this door by building their combs across the whole side of the chamber? We know indeed that even in that case, it might be forced open; but if there is any way to prevent the rupture of the combs, and the consequent loss of honey which must ensue from such violence, we shall be much obliged for the information.

I observe that several articles on the management of bees, within a year or two, have appeared in the New England Farmer; and for such as feel interested in this business, I will select a few particulars which have not yet been copied into this paper.

Extract of a letter from T. W. SUMNER, esquire, of Brookline, Massachusetts.

"In the summer of 1827, a swarm of bees entered by a small hole under the shingled gutter which is on the top of the cornice of one of the dormer windows of my house; when, in they found abundance of room for working, and no one could disturb them, but by taking down the plastered ceiling of my upper rooms. You will recollect my house has what is termed a gambrel-roof; the space above the level plastering, forms a flat triangle of seven feet wide, twenty inches high and at least sixty feet long. I think had they not been disturbed, they might have worked twenty years.

"We did not disturb them, neither did they disturb us, until I took them up in January 1829, on a very cold day. I took down the plastering about a yard square under the comb and smothered them in the usual way with sulphur. We got two hundred and ninety-six pounds of comb, bread and honey. I have often regretted I did not try to propagate them, for honey in a family is a very convenient article."

In a communication from John Prince, esq. of Roxbury, (which includes the above) he says: "A friend of mine, as much as fifteen years since, in taking a hoose to pieces in Boston, found a swarm of bees over one of the dormer windows in the garret, which he had carefully sawed off and secured and carried to Brighton, where he kept it several years.

"I understand there has been in the roof of a house in Brighton, a swarm of bees for seven years past. They have not had much room to work in, but will not be driven away.

"All these circumstances determined me to prepare a place in my barn.—I have made a tight closet of

* A hipped roof is called a *gambrel-roof*.—Webster's Dictionary.

near ten feet square, and about six feet high in the centre—immediately under the ridge pole. The floor is about twenty five feet from the ground; and is approached by a fixed ladder from the second floor, and kept under lock. In this I have placed two hives.—I apprehend from the great elevation of my bee house I shall not be troubled with [the moth] again, as I believe they do not often rise so high from the ground.

"If the chamber plan succeed, of which I see no reason to doubt, we shall be saved a great deal of trouble, as we shall be no longer obliged to watch and hive them.

"The bees appear perfectly satisfied with their elevated situation."

With these extracts, however, I find my article is acquiring an undue length; and though I should be willing to select a few more, I shall defer that labor for the present. In favor of this plan of managing bees, it may be remarked that it accords better with their situation in a state of nature than the troublesome method of putting them into small hives; and much less honey is said to be consumed by them in winter. "When the population of a hive is doubled, they do not consume more provisions during winter than a single hive does." See *Genesee Farmer*, vol. 2, page 159. A FARMER.

MISCELLANEOUS.

(From the *Genesee Farmer*.)

THE COMET.

Linden Hill, 10 mo 24, 1832.

The comet, known by the name of Belia's comet, is now visible; it rises about six o'clock in the evening. It is apparently a little north of Pleiades, a small cluster of seven stars, which in the evening may be seen in the northeast. It appears to be about the diameter of the moon from Pleiades; with the naked eye it is barely visible, appearing like a very small star; but with a common spy glass, it is plain to be seen; it will cross the plain of the ecliptic on the 29th of the present month, when it will be nearest to the earth, and distant about forty eight millions of miles. It will be nearest to the sun about the 25th of next month, when it will be about seventy-five millions of miles from it.

T. C. C.

TO COMING EVENINGS.

In summer days I till the ground,
And tug, and toil, and get my bread;
No interval can then be found

Between my labor and my bed;
My wife declines to knit by night,
And I to read by candle-light.

But when the south receives the sun
Beyond the equinoctial line—

When all my summer work is done,
Substantial pleasures then are mine:

Then Jane begins to knit at night,
And I to read by candle-light.

I'm content, and never sigh,

Nor fly from home some bliss to find;
And Jane is pleas'd as well as I,

It so completely feasts her mind,
To sit her down to knit by night,
And hear me read by candle-light.

For when I read, she always hears,

And what she hears she tries to scan;

When ought obscure to her appears,
Then I explain it if I can.

O how she loves to knit by night,
And hear me read by candle-light.

But when she drops a stitch and gapes,

Soon gapes again and nods her head,

I close my book, and say "perhaps

'Tis time, my dear, so go to bed—

So knit again to-morrow night,

And hear me read by candle-light."

METEOROLOGICAL JOURNAL.

For 11th mo. (November,) 1832, kept at Clermont Academy, near Philadelphia, by S. S. GRISCOM.

Day of the month.	Therm. at sunrise.	Clouds at sunrise.	Winds at sunrise.	Remarks, a.m. and at m.		Max. of Therm.	Clouds at 2 1/2, p.m.	Winds at 2 1/2, p.m.	Remarks p.m. and evening.	
				a.m.	m.				p.m.	9, p.m.
138	CS	w1		w. frost hazy	55e, very smoky w0	58	haze	w2	50° haze! sw2	
246	smoky	NW9		do	65 very smoky sw4 ms.	65	do	NW4	47 haze! nw2	
938	do	NW2		do	54 very smoky NW2	55	do	NW2	54 haze! c, w1	
449	CS.	SW3	r,	do	61 very smoky cs. w3 r,	63	CS.	SW2	57 haze! ms. r, sw1	
556	CS.	SW3			65 cs. NW3	66	CS.	NW1	55 ms. r, NE1	
653	MCS.	NE4	r,		ems. NE3 r,	53	MCS.	NE3	51 ms. r, NE1	
751	MCS.	NW5		[of snow	48 cs: ems: NW5	49	CS.	NW3	45 cs. NW2	
841	MCS.	NE1	r,	a few flakes		42	CS.	NW3	34 cs: ms, NW2	
932	MS.	NW2		ice, w. f,	45 ms, NW5	45	CS.	NW4	34 cs, NW2	
1034	CS.	NW1	do	w f!	49 O. W3	49	O	SW4	38 O W0	
1134	smoky	SW5	do		55 smoky sw3	56	smoky	SW3	46 smoky sw2	
1239	do	SE1			53 smoky s1	54	do	SW1	42 smoky 0	
1337	do	CS.	O, fog!		54 smoky sw4	56	do	SW5	45 smoky sw1	
1438	MS.	NW5			41 ms; NW5	41	MS.	NW5	32 O NW1	
1530	CS.	NW1			35 ms; NW5	35	MS.	NW3	23 cs, NW1 aurora,	
1632	CS.	NW1	smoky		36 smoky O. se1	39	smoky	SW3	30 O 0	
1737	CS.	NE6			52 cs. NE4	51	MCS.	NE4	53 MCS. r. NE5	
1859	MCS.	w0.	fog r,		64 MCS. SW5	64	MS.	SW4	56 MCS. SW4	
1952	MCS.	SE1	do r,		57 MCS. SW4	59	MS.	SE4	56 MCS. wsw6	
2039	MS.	NW8	35° at 9		39 ms, cs, NW7	40	MS.	NW6	34 ms, NW5 aurora,	
2129	MS.	NE1	cl'ds from SE		38 MCS. SE2	40	MCS.	SE3	37 ms, NE2	
2238	MCS.	NE4	r,			40	MCS.	NE4	39 MCS. r. NW4	
2337	MS.	NW1			48 ms: sw3	45	MCS.	SW2	40 MCS. w4	
2436	MCS.	w1			43 ms, w5	44	MCS.	w4	34 O NW1	
2526	O.	WSW4			39 c, wsw6	40	O	SW5	32 O w1	
2635	CS: thin	SW4			50 cs. thin sw5	52	CS: thin	NW5	46 cs: sw3 aurora.	
2751	CS:	SW2			56 cs. NW2	57	CS:	NW2	CS: w3	
2838	CS:	NW3			51 ems. w2	51	CS:	NW3	40 O w1 aurora	
2936	c,	NW1	w f! smoky!		52 cs. NW2	53	c,	w1	41 c; 0	
3042	c & cs.	SW1	do!		52 cs. sw2	56	CS.	SW4		

SUMMARY.

Mean at sunrise, 39.7°
Mean at mid-day, 50.6°
Mean heat of mo. 45.15°
Range, 44°
Minimum on 16th, 22°
Maximum on 5th, 66°
Coldest day on 16th, 30.5°
Warmest day on 18th, 61.5°
Thermometer below 55 on 28 days.
Thermometer above 55 on 10 days.
Decrease of temperature from last month, 9.59°
Temperature compared with same month last year,
3.65° warmer, and 6.77° colder than Nov. 1830.
Rain on 7 days.
Cloudy 13 days.
Clear 17 days.
Wind west 24 days.
Wind east 6 days.
Frost on 17 mornings. Ice on 8 mornings.
Auroras on 4 evenings.
The three fall months .34° warmer than those of last year.
In the fall of 1831, 29 rainy days; in 1832, 24 rainy days.

MEMORANDA.

For several days fine Indian summer weather.
3d. A fine day, observed the spiders along the road spinning their webs, in great numbers; they seemed to be of several different species, of various sizes, and were remarkably shy. They were uniformly on the highest point of the post, and it was with difficulty that they could be approached near enough to observe their actions. I saw several with their hinder parts elevated as much as possible, and the thread as fine as gossamer, proceeding seemingly, without any effort of the insect, from its tail, and floating 20 or 50 feet

across the road. Their vision and hearing seemed very acute, for the utmost care was required to approach them near enough to see them spinning: they would almost uniformly dart behind the post, or into a crevice, upon coming up to them. All were on the alert, though they seemed almost innumerable: scarcely a post or a stick in the distance of a mile along the road, but had from 4 to 8 or 10 upon it, and the fields glistened with their webs. It has been said that the profusion of webs indicates fair weather—but as we had rain on the next and three following days, I should be inclined to conclude that the day on which they spin in this way, only, is fine.

17th. Wind northeast, the noise from the city very loud in opposition to the wind; rain in the afternoon and evening; at 9, P. M. had a fine view of several ignis fatui in a low place a short distance south of the academy. The principal one was nearly stationary, about as bright and of the same color as Mars is now on a clear evening; the others were smaller, and appeared only at intervals, with a soft unstable white light; they would frequently approach the larger one with a tremulous motion, and when very near each other would all ascend several feet and expire—renewing themselves and performing the same motions for more than an hour, when we left off the observation of them—it was raining gently, the air very humid. The thermometer at 53, wind northeast 5, though the place where they appeared was sheltered from the wind by a wood.

18th. The atmosphere loaded with vapor, which condensed on the cold walls inside the house until it ran down in streams on the floor, and wetted the carpets and furniture very much.

26th. A bright aurora behind black CS:

28th. The sky very red at night, and another aurora behind CS, in north.

Prices Current in New York, December 8.

Bestuar, yellow, 18 a 20. Cotton, New Orleans, .11 a 13; Upland, .10½ a 13; Alabama, .11 a 13. Cotton Boggins, Hemp, yd. .13 a .21½; Flax, .13 a .14½. Flax, American, 7 a 8. Flaxseed, 7 bush. clean, — a 13.25; rough, 12.75 a 13.00. Flour, N. York, bbl. 6.25 a —; Canal, 6.18 a 6.43; Balt. How'd st. 6.62 a —; Rhd city mills, 6.81 a —; country, — a 6.25; Alexandria, 6.50 a 6.62; Friedrich's, 6.18 a —; Peters's, new, — a 6.25; Rye flour, 4.75 a —; Indian meal, per bbl. 3.87 a 4.00, per hhd. 18.00 a —. Grain, Wheat, North, — a —; Vir. 1.30 a 1.35; Rye, North, .88 a .90; Corn, Yel. North, .88 a —; Barley, — a 15; Oats, South and North, .40 a .49; Peas, white, 7 bu. 5.00 a —; Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess, 8.25 a 8.75; prime, 5.25 a 5.75; cargo, — a —; Pork, mess, bbl. 13.00 a 14.25, prime, 11.25 a 11.72; Lard, .82 a .9.

MOUBRAY ON POULTRY.

Just received and for sale, at the American Farmer Office and Seed Store. "A Treatise on Breeding, Rearing, and Fattening, all kinds of Poultry, Cows, Swine, and other domestic animals. By B. Moubray, Esq. Reprinted from the sixth London edition, with such abridgements, and additions, as it was conceived, would render it best adapted to the soil, climate, and common course of culture, in the United States. By Thomas G. Fessenden, Esq. editor of the New England Farmer." Price, 75 cents.

FLOWERS.

Just received at the American Farmer Office and Seed Store "A Treatise on the culture and growth of different sorts of Flower Roots and of Green-house Plants kept to rooms, &c. to which is added a table of the Linnaean classes of botany, with their order and examples." Price 50 cents.

RED ANTWERP RASPBERRY BUSHES.

For sale at the American Farmer Office and Seed Store. Price, 12½ cents each; \$1.25 per dozen; or \$8 per hundred. I. I. HITCHCOCK.

BUFFALO BERRY TREE, OR SHEPHERDIA.

A small number of these splendid trees, natives of the Rocky Mountains, and equally desirable for their fruit, and their beauty, have just been received and are for sale at the American Farmer Office and Seed Store, No. 16, South Calvert street. Price \$1 each. Those who want them would better make early application, as the demand is great and the supply scanty. I. I. HITCHCOCK.

MORUS MULTICAULIS, OR NEW CHINESE MULBERRY.

Superior to all others for Silkworms in these respects: 1st. The stalk is low, and therefore the leaves are more easily gathered than from large trees.

2d. The leaves are large—from ten to fourteen inches long, and from eight to twelve broad, hence much of the usual labor of gathering is saved.

3d. A method of cultivation will be imparted to the purchaser of twenty trees at this establishment, by which he will in three years have a full supply of leaves for any desirable silk establishment.

A few hundred of these trees are for sale at the American Farmer Office and Seed Store, No. 16 South Calvert street, by I. I. HITCHCOCK.

JENNIES WANTED.

A gentleman wants one Jenny or more, and will pay a fair price for first rate animals of the kind, but no others will answer his purpose. Any person having such to dispose of may hear of a purchaser by addressing I. I. HITCHCOCK.

SILKWORM EGGS WANTED.

Wanted at the American Farmer Office and Seed Store, No. 16 South Calvert street, a quantity of Silkworm Eggs, for which a fair price will be paid, by I. I. HITCHCOCK.

WANTED,

At the American Farmer Office and Seed Store, all kinds of GRASS SEED, CLOVER SEED, and choice Domestic Animals. Apply to

I. I. HITCHCOCK.

"SHAKER GARDEN SEEDS."

The Subscriber has been appointed by the United Society of Shakers, at New Lebanon, N. Y. agent for the sale of their celebrated GARDEN SEEDS, which may be obtained from him hereafter, by wholesale or retail. He has this day received direct from the Society, 14 boxes, each comprising an assortment, more or less extensive according to its size. Of these a part are small "Family boxes," containing a quantity suitable for a common garden, with a list of contents annexed. The character of these seeds is too well established to need recommendation. Apply at the American Farmer Office and Seed Store, No. 16, South Calvert-street. I. I. HITCHCOCK.

FOX & BORLAND'S THRESHING MACHINE.

The subscriber presents to the public, the following extract of a letter from James Sykes, Esq. to whom he had forwarded one of his threshing machines, (on Fox & Borland's principle) to get out his crop with, for the purpose of testing its merits. Having received very flattering accounts of their performance from various sources, he is now ready to receive orders for them, to furnish the machine with or without the horse power, the latter he would prefer, if his customers could furnish themselves with suitable horse powers.—Those wishing to obtain these machines for the coming season, should lose no time in forwarding their orders. J. S. EASTMAN.

Mr. J. S. EASTMAN:

Sykesville, Nov. 28, 1832.

Sir,—Your threshing machine would have left here this morning, but for the neglect of my overseer; I will myself attend to putting it upon the car in the morning. I have given it a fair trial and consider it far superior to any other threshing machine which has come under my observation, and I have seen and used several.

On Saturday last, I got out a rick of oats, running the machine four hours and two minutes; upon elevating and measuring the oats found them to measure 192 bushels, being nearly at the rate of 50 bushels per hour. Yesterday I threshed two stacks of wheat, having the machine in operation five hours eleven minutes, (5 h. 11 m.) on elevating and measuring the wheat to-day; find, 115 bushels; averaging upwards of 20 bushels per hour, the straw of the wheat very long; this machine is very simple, not liable to get out of order, and threshes very clean.

I feel so much pleased with the performance of your machine, that I intend to get one next season, although I have one of another plan, considering yours decidedly more safe than any other.

Very respectfully, yours, JAMES SYKES.

STRAW CUTTERS, CORN SHELLERS, &c.

SINCLAIR & MOORE, offer for sale a variety of kinds of Straw Cutters, the cylindrical of the following sizes and prices, viz. 11 inch box at \$27. 14 inch at \$45. 16 inch at \$55. 20 inch at \$75. The smallest (price \$47) will cut 300 bushels of straw one inch long per day, and is precisely the kind spoken of in the following note, addressed us by the proprietor of the American Farmer:

Baltimore, October 2, 1832.

John G. Eliot, for whom we bought one of your Straw Cutters last year, writes me thus, under date of Sept. 20, 1832: "The Cutting Knife answers well. I would not be without it for the price of two."

I have much pleasure in communicating the above, for I think the instrument well deserves the compliment thus bestowed on it. Yours, truly, SINCLAIR & MOORE, Balt. I. I. HITCHCOCK.

The second size has cut, in the vicinity of Baltimore, seven hundred bushels per day, with manual power.—The third and fourth are capable of much more, particularly with horse or water power. These machines may now be expected to go into more general use, as they can be furnished at a more moderate price.

Also circular knife self-feeding boxes at \$20. Common Dutch box at \$7.50, and smaller size at \$5.

CORN SHELLERS, with vertical cast iron wheels, very durable and easily kept in order, which shell with great ease and rapidity, price \$20. CAST STEEL AXES, with a general assortment of AGRICULTURAL IMPLEMENTS and GARDEN SEEDS.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—Flour has declined a trifle, the wagon price of Howard street being \$6. Wheat is very dull, large quantities in market and no purchasers at the prices at which it is held, and it must, therefore, decline still further; our quotations of wheat must, consequently, be understood as merely nominal. Family corn-fed pork is selling from stores at \$4.75.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 u 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a —.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 234 hds. Md.; 77 hds. Ken.; and 23 hds. Ohio.—total 334 hds.

FLOUR—best white wheat family, \$6.75 a 7.25; super Howard-street, 6.12½ a 6.18½; city mills, 5.75 a 5.87; city mills extra 6.00 a —.—CORN MEAL bbl 3.50; —GRAIN, bested wheat, 1.10 a 1.15; white do 1.15 a 1.20; —CORN, white, 58 a —, yellow, 60 a —.—Rye, 72 a 73 —OATS, 40 a 42 —BEANS, 75 a 80 —PEAS, 65 a 70 —CLOVER-SEED 7.00 a 7.50.—TIMOTHY, — a —.—ORCHARD GRASS 5.00 a 2.25.—Tall Meadow Oat Grass 2.00 a 2.50.—Herd's, 75 a 87½.—Lucerne — a 97½ lb. BARLEY, FALSWELL 1.50 a 1.62.—COTTON, Va. 10½ to 12—Lou. 10 a 12—Alab. 10 a 12—Tenn. 10 a 12; N. Car. 10 a 12—Upland 10 a 12½.—WHISKY, hds. 1st, 53 a —, in hhs. 34½ a 55.—Wool, Washed, Prime or Saxony Fleeced 45 a 50; American Full Blood, 35 a 42; three quarters do. 33 a 38; half do. 30 a 35; quarter do. 28 a 30; common 25 a 28. Unwashed, Prime or Saxony Fleeced, 25 a 30; American Full Blood, 22 a 25; three quarters do. 20 a 22; half do. 18 a 20; quarter do 16 a 18; common, 16 a 18. HEMP, Russia, 10½ a 25; Country, dew-ratted, 6 a 7c. lb. water-rotted 7a 8c —Feathers, 37½ a 38½; Plaster Paris, per ton, 5.00 a —, ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 38.00 a —; high pig for forges, per ton, 28.10 a 30.00; bar Sus. per ton, 75.00 a 85.00.—Prime Beef on the hoof, 5.00 a 5.50.—Oak wood, 4.00 a 4.50; Hickory, 5.50 a 6.00; Pine, 2.25.

CONTENTS OF THIS NUMBER.

Editorial; American Silk; The Planter's Guide—Foreign Markets—Observations on the Employment of Salt in Agriculture and Horticulture, with Directions for its Application, Founded on Practice, by Cuthbert William Johnson; Wheat, Barley and Oats, Turnips, Mangel Wurzel, &c. to be continued.—The Importance of Manure.—Letter from the Hon. Richard H. Wilde on the Teak Tree or Indian Oak; Botanical Description, Geographical Distribution, Popular Description, Uses and Qualities, Teak Timber Trade—Improvements in Horticulture; Summer Pruning of the Vine—Management of Bees; Method of Keeping them in Garrets —Bela's Comet—Poetry, To Coming Evenings—Samuel S. Griscom's Meteorological Journal for November —Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

The American Farmer,

Edited by GIDEON B. SMITH, is issued every Friday.

TERMS.

1. Price five dollars per annum: due at the middle of each year of subscription, provided that no balance of a former year remain unpaid.

2. The manner of payment which is preferable to any other for distant subscribers, is REMITTANCE BY MAIL OF CURRENT BANK NOTES; and to obviate all objection to this mode, the publisher assumes the risk.

3. Subscriptions are always charged by THE YEAR, and never for a shorter term. When once sent to a subscriber, the paper will not be discontinued (except at the discretion of the publisher) without a special order, on receipt of which, a discontinuance will be entered, to take effect AT THE END of the current year of subscription.

4. PRICE OF ADVERTISING.—One dollar per square, and in the same proportion for more than a square, or more than one insertion.

5. DIRECTION OF LETTERS.—Address all BUSINESS letters concerning the Farmer, the store, or the agency, to the proprietor, "I. I. HITCHCOCK, Baltimore, Md."

Printed by J. D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, DECEMBER 21, 1832.

A BUNCH OF APPLS.—We have received from E. N. Hambleton, Esq. of the Eastern Shore of Maryland, a bunch of apples, which grew in a young orchard of his at Deep Water Point, on Mills River. The bunch consisted of nine good sized apples attached to a small twig, not much larger than a goose quill, and so closely set, that they have some resemblance to a bunch of monstrous grapes. One of the apples has rotted and fallen off, but the others are yet sound. The bunch, when first taken from the tree, weighed three pounds and a quarter. We cannot conceive how so small a twig supported such a cluster of apples, unless it grew in a pendulous position. This curiosity may be seen in our repository of vegetable curiosities.

By the way—why do not our friends send us more of these curious productions of the vegetable world? We have a repository appropriated expressly for the exhibition of every thing curious, rare or valuable, in the vegetable kingdom, and would be thankful for specimens of any kind.

A CURIOUS VEGETABLE may be seen at the Office of the American Farmer, in the shape of a good sized turtle, but of the nature of a monstrous *beet*. It has a very passable mouth, legs and tail; and a body of very proper dimensions, except that it is rather elongated, in consequence of being somewhat straitened for elbow room in its native element. When taken from the ground, it measured 26 inches in circumference, and weighed 22 lbs. It was raised by Lewis Denig, Esq. of Chambersburg, Pa.

SISAL HEMP IN GEORGIA.

Mr. SMITH: *Jasper Co. Ga. Dec. 6, 1832.*

Noticing a communication of Mr. Perrine's, copied from the New York Farmer in your very excellent paper, page 963, of the present vol. respecting the introduction of the Agave into southern agriculture as a competing staple with northern hemp and flax. And perceiving his anxiety to procure an effectual method whereby the fibres which he terms Sisal hemp can be extracted from the green leaves of this plant. Being a friend to improvement, and one careless of the established usages of our forefathers, who interdicted the introduction, to the list of our already cultivated articles, all plants, whether indigenous or exotic: I have inclosed to you a small parcel of the fibres extracted from the leaves of the Agave Americana, with a view to the manufacture of ropes: also a few of the seed off of a stalk growing in my garden, that you, by comparison, can tell if it is the kind recommended by Mr. Perrine. And will herein state my manner of preparing the fibres for use; which plan I am persuaded, is the simplest, cheapest, most expeditious, and will secure to the operator as many of the fibres, as any other that can be adopted; (because it will save all) to which Mr. Perrine is perfectly welcome, provided it will answer his purpose. Previous to stating the operation I will remark, that there are two kinds of the agave growing in this part of the country, both suited to the manufacture of cordage, and probably other uses, but this is the only one to which it has as yet been applied. I have a great number of the Agave americana or great American aloë, growing in my yard and garden, from one to eight years old, and from two to ten feet high; two of which blossomed last year, and an additional one this—it requiring seven years' growth in this degree of latitude (33 deg. 15 min.) previous to flowering, and 8 before fructification. It is afevergreen, and is very tenacious of life; for even when the stem is cut above the ground and thrown in the highway, it will put forth roots and grow very luxuriantly, provided it is done in the

spring or early in the summer. It would require the pen of an abler hand to do justice to the beauties of this plant, when crowned with the gems of its yearly produce. The flowers at first are a rich satin white, and in fifteen or twenty days turn to a light purple, and then from the centre of each bloom can be seen the young fruit protruding—which, when ripe, is in the form of a hexagonal prism, coming to a point at one end—externally and internally a deep purple, containing a great many seed; taste an oxymel; fruit relished by some persons. The second is a smaller species of the same genus growing wild in many places on alluvial soils, and when attaining a certain age, flowers in June and July. The leaves of both are from one to three inches broad, and from one and a half to three feet long, differing with regard to soil. Though this plant will flourish tolerably well on poor or worn lands, yet it delights in that which is fertile, and of deep mold. Take of the green leaves and tie them in parcels, so that they will not be scattered; put them in running water in the summer season, which will rot off all the extraneous matter pertaining to the leaf, and leave the fibres free and uninjured, which the specimen before you will prove, though it is more than a twelvemonth since it was procured from the leaf in the manner above specified. It takes from twelve to eighteen days to complete the process. In the winter the operation is changed, and the fibres are extracted by boiling the leaves (tied in bunches, as before mentioned) in large kettles or other capacious vessels, being careful to have the receptacle sufficiently full of water to keep the leaves immersed. This process is the most expeditious, and without any perceptible difference between it and the former. It does not require more than twenty-four hours to boil the leaves sufficiently, and the fibres are ready for use as soon as dried in the air. My negroes for several years have manufactured ropes from the leaf of this plant, which they readily sell at a dollar for a sufficiency to make a cord for a bed—say thirty yards. I often buy of them myself, to encourage industrious habits among them. And as it may be probably some subject new to you, (though it is foreign to the subject of my communication,) I will state in the close, that my negroes also make ropes, from the sap-wood of any clear grained young hickory, that is free from knots; possessing flexibility and strength. If requested, and the manner of conveyance specified, I will send on a specimen of both to you for your inspection accompanied by the modus operandi, in manufacturing the hickory cord. If you deem the above remarks worthy a place in your paper, please insert them, if not, toss them unhesitatingly in the fire.

Yours, respectfully, THOS. B. WHITE.

[Our correspondent will please accept our thanks for the above communication. The specimen of prepared hemp inclosed in it, is, without doubt, similar to that sent by Mr. Perrine; but there is a difference in the color, that of Mr. P. being white, and the present of a yellowish cast. This, however, may have been caused by the different processes of extracting the fibres. The Mexican hemp is extracted by pressing the green leaves through cylinders. The Mexican hemp is also much longer than the specimen forwarded by Mr. White. We shall be very glad to receive specimens of the plants, which can be readily forwarded by any mercantile house in Charleston or Savannah, as packets sail thence weekly for Baltimore. We shall also be glad to receive the account of the mode of making cordage from the hickory, mentioned by Mr. White.—*Ed. Am. Far.*]

BULL-FROGS DESTROY CHICKENS.

*Clearmont Academy, near Philadelphia, }
12 mo. 6, 1832. }*

FRIEND SMITH:
A friend relates to me the following anecdote, the truth of which may be implicitly relied upon from the character of the narrator, and may account for the loss of much young poultry. A hen who had a fine

flock of young, was observed to have lost several, and the depredator could not be found until one day, the owner was standing near his barn and the hen with her brood near him; when he observed something dart upon the flock and take a chick so quickly that he could not see what it was—observing however that it issued from, and went back to a pile of rails, he immediately called up some of his men, and removed the rails when a large bull-frog (*Rana pipiens*) was found and ascertained beyond a doubt, to be the thief; he was so nimble, that they had much difficulty to secure him, his leaps were surprising, often as high as their heads. Some of my pupils tell me they found one, the past summer, which shewed quite a disposition to resent their intrusion about his stream; he repeatedly sprang towards, and bit at a stick, which was pushed towards him, and maintained his place a considerable time, before he thought prudent to retire out of their reach. SAMUEL S. GRISCOM.

MR. GARNETT'S WEED-HOOK PLOUGH.

Mr. SMITH:

Dec. 14, 1832.

My address to our Agricultural Society of Frederickburg, published in the American Farmer of the 7th, has a few errata, which you will find stated in the postscript. But my chief object in addressing you at present is, to recommend a better mode of fixing the weed-hook, described in the address, than the one therein mentioned. This is—to pass the shank of the hook through a flat staple on the land side of the beam, and to make it fast by a small bolt, made to fit a hole in the shank, just above the staple, where the bolt must enter the beam. Care must be taken to preserve the same, or nearly the same angle exhibited in the drawing.

With a sincere wish that your highly useful paper may constantly increase its circulation, I remain, sir, your obedient servant, JAMES M. GARNETT.

ERRATA.—In the second column erase the word "and" before "horse racers," and insert it after.

Midway the fifth column, instead of "Mr. Wood," read "Mr. Booth."

STRAWBERRIES.

DEAR SIR:

James City, Va. Nov. 26, 1832.

Is it worth noticing that I gathered yesterday from the vines of Mr. T. B. Allen, of York County, half-grown strawberries and blossoms? They are now in my house. I am credibly informed, that his vines have not been without fruit and bloom since May, and they are certainly the finest strawberries I have ever seen—some of them culled last summer, being four inches in circumference. J. S. Jr.

(From the New York Farmer.)

TO MAKE A LIQUID OPODELDOC.

Mr. Editor:

Sept. 4, 1832.

Take two quarts of whiskey, rum, or brandy, or any other proof spirits, put it in a kettle and warm it with coals, dissolve in it as much soft-soap as it will take up. When cold, put it into a bottle and add one ounce of camphor, half an ounce of volatile salts of ammonia, when these are dissolved, it is ready for use. This preparation is called liquid opodeldoc, and in all swellings about horses and cattle is a safe and good application. Some gentle physic should be given at the same time. The opodeldoc will clear their humors if recent, and the physic will clear them out of the system. Yours, &c. CARLO.

¶ The publication of the Farmer has been delayed this week in consequence of an afflictive event in the family of our worthy printer, Mr. Toy.

AGRICULTURE.

OBSERVATIONS ON THE EMPLOYMENT OF SALT, in Agriculture and Horticulture, with Directions for its Application, Founded on Practice. By CUTHBERT WILLIAM JOHNSON, Author of "An Essay on the Uses of Salt for Agricultural and Horticultural purposes, &c."

(Concluded from page 315.)

GRASS LANDS.

Apply ten or fifteen bushels per acre in the autumn.

I rejoice to find that, in Devonshire, salt has found, in Mr. Collins, of Kenton, an able and zealous advocate, from a letter dated October 17th, 1826, with which I was favored by that gentleman. I make the following copious extract:—

"One of my neighbors writes me, in using salt as a manure on grass land, I have found the salted portions not to be affected by severe frosty nights, when every blade of grass on the unsalted portions have been in a frozen state.

"I observe, too, that it is destructive to every kind of grub and worm; and I am convinced, where it has been used with judgment, that it has not failed." Another intelligent neighbor, continues Mr. Collins, whose farm is almost entirely a light black sand, writes—"I have found salt answer my most sanguine expectations for barley, oats, potatoes, and turnips, both as the increased quantity and improved quality of crops, of which I can now give ocular demonstration to any one you will send: my barley and oats, which used to yield me only 15 to 20 bushels per acre, now yield from 40 to 45. My wheat is certainly much improved in quality, but I expected more in quantity. I have had 35 bushels of wheat from an acre dressed with ten bushels of salt; and from the same field last year, after the same quantity of salt, 140 bags of potatoes per acre. This year again, dressed with ten bushels of salt, I have not more than 20 bushels of wheat per acre, but the quality very superior indeed, and the root of clover in it is very fine and luxuriant. In every field I have salted, I find the grass very much superior to any produced before the use of salt.

"I have since, (adds Mr. Collins,) gone over his farm, and am astonished at the verdant pasturage, in what used to be coarse and rushy meadows. In this arable land he never got more than ten bushels of wheat per acre until he used salt; so that this is also a decided improvement."

I will give but one other testimony in favor of its use, and that one of the latest I have received from an old Suffolk agriculturist, Mr. Broke, of Capel, near Ipswich:

In the month of April, 1821, six bushels of salt manure were applied to half an acre of red clover, — the soil good turnip land, not sharp; extent of the field ten acres. The salted clover at first looked very yellow, and apparently injured, but it soon began to recover, and when mown, the increased produce was, at the very least, 10 cwt. per acre; and the aftermath proportionately good; the cattle eating it down closer, and in preference to every other part of the field.

I might add easily to this plain statement numerous other experiments, even of the same farmer: I might add those of Mr. Long, the late high sheriff of Hampshire; or those of Mr. Benett, in Wiltshire; or Mr. Burrell, in Sussex; but for the unprejudiced farmer, one fact is quite sufficient, and the enemies of salt manure will still believe that they were all alike deceived: there is "no good in salt," says the farmer who had his marshes flooded with salt water, and he finds many ready to agree with him in his thoughtless conclusions.

POTATOES.

Apply from ten to twenty bushels of salt to the

surface as soon as the potatoes are planted, or ten bushels in the previous autumn, and ten after inserting the sets.

My experiment with salt to potatoes were upon a light gravelly soil. The result was as follows:

Experiments.	PRODUCE IN BUSHELS.	Per acre.
1. Soil without any manure,	- - -	120
2. Soil manured with 20 bushels of salt, the previous September,	- - -	192
3. Soil manured with stable dung at the time of planting,	- - -	219
4. Soil manured with stable dung and twenty bushels of salt,	- - -	234
5. Soil manured with 40 bushels of salt alone, 20 in September and 20 in the spring, after the sets were planted,	- - -	192½
6. Soil manured with 40 bushels of salt as in the last experiment, and also with stable dung, [result not given.]	- - -	-

These experiments are entirely confirmed by those of the Rev. E. Cartwright, of Tonbridge. From a copious table which the farmer will find at page 82 of my Essay on Salt, I extract the following statement:

Experiments.	PRODUCE IN BUSHELS.	Per acre.
1. Soil without any manure,	- - -	157
2. Soil manured with 9 bushels of salt per acre,	- - -	198
3. Soil manured with 8 bushels of salt and 30 bushels of soot per acre,	- - -	240
4. Soil manured with 30 bushels of soot per acre,	- - -	182

"Of ten different manures," concludes Mr. Cartwright, "most of which are of known and acknowledged efficacy, salt, with one exception, is superior to them all."

HAY.

Put about half a bushel of salt to every load of hay, spread it by hand or through a sieve. Mr. Woods, of Ingatstone, in Essex, has employed it for thirty years; his plain unvarnished statement need not be supported by any other.

"I used about a quarter of a peck at each laying, thinly spread, which I find is about 4 bushels to a stack of 20 loads. I am fully satisfied that double the quantity would be much better."

"In a particularly wet season, a few years since, I used twelve bushels to a stack of forty loads, the whole of which was consumed by my own horses, and I never had them in a better condition. I am so fully convinced of the benefit of salt to hay, that while it is allowed duty free, I shall use it in all seasons." (For other testimonials to the same effect, see Essay on Salt, page 100.)

The avidity with which animals consume salted hay, is not so generally known as it ought; I will give, therefore, a curious fact related to me a short time since by Mr. Law, of Reading.

Mr. Green, of Wargrave, in Berkshire, had, in the season of 1824, a parcel of sour rushy hay from a meadow on the banks of the Thames, which both he and his men despaired of rendering of the least value; it was therefore stacked by itself, and well salted; the quantity supplied was large, but Mr. Law did not know the exact proportion.

When the period arrived that his sheep wanted a supply of hay, he directed his shepherd to use the salted inferior hay first, and, to his surprise, the sheep consumed it with the greatest avidity. The stack being finished, the shepherd was directed to supply them now with the best hay he could find of other stacks of fine meadow hay.

He came, however, the next morning to his master, and made the following remark:—"We, sir, must have made a great mistake, and forgotten which stack we salted, for our sheep will not eat the hay which we think the best."

LIVE STOCK.

The importance of salt to animals is so generally

admitted, even by those who deny its value as a manure, that I shall not here dwell at great length upon it. When animals are in a wild state, it is observed, that at certain periods of the year they seek the salt water or salt springs inland, with great avidity; and every farmer observes, that his cattle, horses, &c. are remarkably fond of licking the salt earth of the farm yard, stables, &c. In Spain, they give their sheep salt with great regularity, 112 lbs. in five months to one thousand sheep; as such, I fearlessly assert, that the importance of salt for cattle is incontrovertibly established, however imperfectly it may be practised. I subjoin the statement of Mr. Curwen, M. P. for Cumberland. He employed salt to his live stock daily for years:

For horses he gives,	- - -	6 oz. per day.
Milch cows,	- - -	4 do
Feeding oxen,	- - -	6 do
Yearlings,	- - -	3 do
Calves,	- - -	1 do
Sheep,	- - -	2 to 4 per week.

If on dry pastures; but if they are feeding on turnips or cules, then they should have it without stint.

Some give it to live stock on a slate or stone, — some lay lumps of it in the cribs or mangers. It is a fact indisputably proved, that if sheep are allowed free access to salt, they will never be subject to the disease called the rot. Is not even this a fact worthy of the farmer's earliest, most zealous attention?

Some recent experiments also lead me even to hope that I shall one day or other be able to prove it to be a cure for this devastating disease. I have room but for one fact.

"Mr. Rusher of Stanley in Gloucestershire, in the autumn of 1828, purchased for a mere trifle twenty sheep, *decidedly rotten*; and gave each of them, for some weeks, an ounce of salt every morning.

Two only died during the winter: the surviving eighteen were cured, and have now, says my informant, "laubs by their sides."

Mr. Butcher, now of Brook Hall, in Essex, for years employed salt for his cattle and sheep, on his farm near Burnham, in Norfolk. One of his fields was so very unfavorable for sheep, that before he used salt, he had lost ten and twelve sheep in a night, when feeding on the turnips; but after he adopted salt, he never lost one. He used to let the sheep have the salt without stint; and he remarked, that the sheep always consumed four times the salt on this particular field, than when feeding on any other on the farm.

Mr. Butcher one year let this field of turnips to a neighbor, who did not use salt; and consequently, after losing ten sheep the first night, gave up the field in despair.

Sir Jacob Astley, of Melton Constable, in Norfolk, gives about a table-spoonful of salt per week to each of his foxhounds, — it keeps away distempers, and preserves them in the best health and vigor. It is administered wrapped up in paper as a bolus.

Although the use of salt for live stock is now becoming quite general, yet the enlightened farmer must not suppose that its introduction, even for that important purpose, was the work of a day. The very magistrates were opposed to its use — for, only a few years since, some honest farmer's servants were brought before a justice of the peace, at Winchester, charged, by their ignorant master, with the dreadful crime of giving his horses salt in their corn. "I should not have suspected it," said the farmer, "had not my horses' coats become so fine lately." "Salt for horses!" exclaimed the indignant magistrate, "can any thing be more poisonous? Let the rascals be committed to the Bridewell for a month."

HORTICULTURE.

In the garden, much good may be effected by a judicious employment of common salt. I am indebted to my brother, Mr. George Johnson, for several important experiments with salt, in the kitchen garden;

they were made with much care, and I can vouch for their correctness.

The soil was sandy; and I abridge from his paper, read before the London Horticultural Society, in November, 1821, the following detail of the result:

WINDSOR BEANS.

Experiments.	PRODUCE IN BUSHELS.	Per acre.
1. Soil without any manure, -	-	1354
2. Soil dressed with 20 bushels of salt per acre, week before seed time, -	-	217

ONIONS.

	tons.	cwt.	qrs.	lbs.
1. Soil manured with 20 bushels of salt and 10 tons of farm yard manure, -	3	12	3	12
2. Soil manured with 12 tons of farm yard manure, -	2	10	2	19

CARROTS.

	tons.	cwt.	qrs.	lbs.
1. Soil manured with 20 bushels of salt and 20 tons of manure, -	23	6	1	18
2. Soil, 20 tons manure only, -	22	18	0	26
3. Soil manured with 20 bushels of salt only, -	18	2	0	0
4. Soil without any manure, -	13	4	0	0

PARSNIPS.

	tons.	cwt.
1. Yard manure 20 tons, salt 20 bushels, -	6	15
2. Yard manure 20 tons, -	6	11

EARLY POTATOES.

Experiment.	PRODUCE PER ACRE.	BusheLS.
1. Soil without any manure, -	-	303
2. Soil manured with 20 bushels of salt per acre, -	-	584

In 1826, salt at the rate of 20 bushels per acre was applied, soon after the seed was sown, to half of a carrot bed, in a garden belonging to Richard Francis, Esq. Droitwich; the summer proving dry, the carrots received but little benefit (the salt should have been mixed with an equal quantity of soil.)

In 1827, the same bed, without any additional manure, being sown with peas, presented a most remarkable appearance,—for when the peas on the unsalted portion were only four inches high, the salted were at least sixteen inches, and nearly in bloom,—they yielded five or six times as many pods, and those fell three weeks earlier than the unsalted portion.

Will not the market gardener be able to avail himself of this curious property of salt? I can testify from my own experience, that salt forwards the growth of potatoes, &c.

I have, in my Essay, given at length, the experiments of Dr. Priestly, upon various plants vegetating in salt and water. He found that the use of salt materially protracted the existence of the plant. Flowers, kept in water vases, continue much longer in bloom, if a portion of salt be added to the water. It is a common custom with the importers of exotic plants, to dip cuttings into salt water. Before the adoption of this plan, they almost invariably perished in the passage.

To explain these curious facts, it is supposed that the salt acts as a stimulant to the plant. The word stimulant, however, being merely used for the want of a better, as most of the amazing processes and wondrous phenomena of vegetable life are too inscrutable but for the eye of him

“Who spoke the word, and Nature moved complete.”

Among my very last letters received on the use of salt in the cultivation of plants, was one from an eminent florist, near Paddington, Mr. Thomas Hogg, and I will here transcribe his own words:

“From the few experiments that I have tried with salt as a garden manure, I am fully prepared to bear testimony to its usefulness. In a treatise upon

flowers, published about six years since, I remarked, that the application of salt, and its utility as a manure, was yet imperfectly understood. It is a matter of uncertainty, whether it acts directly as a manure, or only as a kind of spice or seasoning, thereby rendering the soil a more palatable food for plants.

“The idea that first suggested itself to my mind, arose from contemplating the successful culture of hyacinths in Holland. This root, though not indigenous to the country, may be said to be completely naturalized in the neighborhood of Haarlem, where it grows luxuriantly in a deep sandy alluvial soil; yet one great cause of its free growth, I consider, was owing to the saline atmosphere; this induced me to mix salt in the compost; and I am satisfied that no hyacinths will grow well at a distance from the sea without it. I am also of opinion, that the numerous bulbous tribe of amaryllides, especially those from the Cape of Good Hope; ixiads, alliums, which include onions, garlic, shallots, &c. anemonies; various species of the lily; antholyza; colchicum; crinum; cyclamens; narcissus; iris; gladiolus; ranunculus scilla, and many others, should either have salt or sea sand in the mold used for them.

“I invariably use salt as an ingredient in my compost for carnations; a plant which, like wheat, requires substantial soil, and all the strength and heat of the summer to bring it to perfection; and I believe I might say, without boasting, that few excel me in blooming that flower.

“If I wished to refresh and improve a soil of what is called an old worn out garden, exhausted by fifty years’ cropping, or more, I would give it ($\frac{1}{2}$ or $\frac{1}{4}$ part at a time) a good dressing of lime in the autumn, spreading it as soon as it was slaked and forking it in immediately. I would, a week or two after that, dig and trench it well in the rough, and lay it up for the frost to act upon; and then, in the spring, I would give it a good dressing of salt (not less than six bushels to an acre.) The good effect of such treatment would be manifest for two or three years after.”

CONCLUSION.

From the statements which I have now been enabled, through the kindness of my friends, to lay before the farmer, he must agree that the use of salt in agriculture is of the highest importance: he must acknowledge this, unless, indeed, he believes that all those who have tried salt as a manure, were alike deceived; that Messrs. Brooke and Ransom, in Suffolk; Messrs. Baynes, Butler, Wood and Challis, in Essex; Mr. Ross, in Kent; Mr. Barrel, in Sussex; Mr. Long, in Hampshire; Mr. Benett, in Wiltshire; Mr. Sinclair, in Bedfordshire; Mr. Hollingshead, in Lancashire; Messrs. Siekler and Hoblyn, in Cornwall; Mr. Hogg, in Middlesex; Mr. Collins, in Devonshire, and a host of others, were all deceived in their experiments, and in error in their conclusions.

That salt is alike beneficial to all kinds of land, and at all times, is an assertion too absurd to need refutation, for such an universal property belongs to no other manure; even chalk or lime will not suit all soils. Stable manure may be employed without benefit.

When chalk is applied to some soils, years must elapse before its good effects are visible to the farmer; “and yet,” said the late eloquent Lord Erskine, “chalk, which has caused to start into life the most inert soils, is just nothing as a manure compared with salt.”

And, let me ask, what would have been the fate of chalk as a manure; had its early advocates decided upon its merits, without first employing that patient spirit of investigation so especially necessary in all agricultural pursuits?

Would chalk, or gypsum, or lime, or bone dust, ever have been generally employed as a manure, had their advocates been infected with a spirit of impatience, and proud contempt of the experiments and rules of those who went before them? Chalk and gypsum had their opponents; they too, had to en-

counter ignorance in all shapes; but they triumphed at last, and so will the advocates of salt.

It is not intended to be conceived, that salt has been employed sometimes with detriment to the crop under experiment, often without any effect; yet these are no proofs even of its utility. Some soils require it to be applied in the autumn, others in the spring; some crops are most benefited by having it applied long previous to their insertion, others at that immediate period. Neither let any farmer imagine, because it is beneficial to his light soils, that it cannot be equally so to more tenacious ones; its gently moistening powers render the first more fertile, the latter friable, and more open to every agricultural operation in the driest seasons. On the richest soils it may be employed with advantage, were it only to destroy the predatory vermin with which they more than usually abound. Those who have studied the subject most, and witnessed the greatest number of experiments, must agree in considering that there is no soil or crop that will not, under some circumstances, be benefited by the application of salt; it cannot be otherwise, but in the immediate vicinity of the ocean. The misfortune is, that no enlightened agriculturist has grappled with its investigation, with the patient determination to establish its true worth; the drill husbandry has had its Coke; the grazing system its Somerville; but salt is still without its demonstrator. The combined exertions of the many may obviate this deficiency. Let every farmer but institute and carefully pursue an experiment, and let him communicate it to the public, whether favorable or otherwise, in all its details; and the true value of salt as a manure, will soon be established.

It is scarcely necessary to add, let no one view the subject as of small importance; say nothing of it in a scientific point of view, that cannot be unimportant, with which is connected one of the staple manufactures of the country, which involves the cheapest and most portable manure within the reach of the agriculturist. Let no one think he can do nothing in furtherance of the research; the most ill directed and unsuccessful experiment serves at least as a warning, a beacon to others; a judicious one, especially when crowned with success, bears with it the inestimable gratification that a benefit is conferred upon mankind! The pleasure that always accompanies the illustration of truth.

“He who makes two blades of grass grow, where but one did before, deserves better of mankind than the whole race of politicians.”

CULTURE OF RUTA BAGA.

MR. SMITH: Greenland, N. H. Nov. 23, 1832.

Last spring I prepared one hundred and two rods of land for a crop of ruta baga, where had been grown the year previous, a crop of potatoes. It was twice ploughed, then harrowed and rolled; afterwards furrows were made about three feet apart, into which manure was thrown, at the rate of about twenty loads per acre. A deep furrow was then thrown on each side the manure, by a strong ox team, forming a high ridge directly over it. Next, a slight ditch was made on the top of the ridge, and a little fine manure thinly scattered along, and after dropping, the seed was covered; which completed the manner of sowing. This last operation of manuring is very important, in order that the young plant may be forced into its second leaf, when it is not so liable to be cut off by the fly—so often destructive of this crop.

The preparation of the land, and the manuring and sowing, is the principal labor required, the after culture and harvesting being comparatively very light; the one is performed in dull dry weather, when the hands cannot be otherwise properly employed, and the ingathering of the crop may be delayed till after all others are secured, as it will bear a hard frost without injury. This is done with great rapidity. One man

can easily cut the tops off, pull up and throw into a cart, one hundred and twenty bushels in a day.

The quantity raised on the one hundred and two rods, is five hundred and fifty bushels—equal to eight hundred and sixty-two bushels to an acre.

But the most interesting inquiries to the practical farmer are yet to be considered, viz: what is the expense of cultivation, and what is the value of the crop.

It will be already seen, that the expense of labor and manuring is considerable. From the best estimation I can form, without having kept any exact account, I should say, that the value of manure expended, is equal to

Labor, - - - - -	25 00
Making - - - - -	\$45 00

My theory as to the value is this: I estimate the saving of hay in (using 550 bushels,) feeding sheep, equal to eight tons, which, at nine dollars per ton, amounts to

\$72 00

Feeding will commence about the first of March, of three hundred ewe sheep a month previous to yearning time, and the condition of the sheep will be so much bettered, by turnips and hay, instead of feeding with hay only, that ten lambs will be saved for every one hundred sheep—being thirty at one dollar each,

30 00

\$102 00

deducting \$45, the expense of cultivation,

45 00

\$57 00

leaves a profit of fifty-seven dollars, or at the rate of eighty-nine dollars and forty cents per acre.

J. W. M.

[Our correspondent shall certainly be remembered, as he requests in a private note, should we obtain any of the gama grass seed; but we have little hope of getting any, as all our efforts, to that effect, have been unavailing.—*Ed. Am. Far.*]

CULTURE OF COTTON IN MISSISSIPPI.

MR. SMITH: *Hinds County, Miss. Nov. 8, 1852.*

Every man in this country prides himself on farming his own way, and his experience proves this way to be preferable; should he succeed in one crop, much boasting, but if indifferent, bad seasons and forty other excuses. I will give you my way, with all its imperfections, believe many will say I err, and know a great number "out crop me," but different situations, and different seasons, make no little difference.

It is well known to you that cotton is in this country our "staple," every thing neglected for it; many not making corn or pork for their families. This will be a sufficient apology for my dwelling on the cotton crop. I commenced ploughing the past season on the 26th day of March for cotton, running off my rows from 3½ to 4 feet apart, owing to soils, with a jumping plough, (the common shovel with a coulter before it,) bedding up with a single horse Carey plough, running twice each side, as termed, throwing five furrows together; and when we leave a box immediately plough it out, always ploughing as deep as our ploughs and horses will permit. I direct my hands to throw up a flat, even bed, not desiring to plant on a ridge as many prefer, to "carry off superfluous water," say they. I began to plant on the 12th day of April, and completed on the 24th. I open furrows with a scooter plough, but prefer a flat harrow tooth; but so as not to open a deep furrow; sow about one bushel and a half of seed to the acre, rolled in ashes and earth—corn with a wooden tooth harrow, or I prefer a board fastened to the foot of a shovel plough; this answers better, I think, somewhat like a roller in pressing the earth on the seed, and not covering deep. My reason for thinking this preferable, is that I have

had a first rate stand for the last two years, whereas all in this section of the country know how difficult it has been, particularly last year, 1851. I planted the same seed that others did, who complained most. I commenced scraping on the 3d of May, and should have premised that I ran a furrow each side of my cotton rows, the bar next the cotton called "barring off," which will leave a narrow bed for hands to scrape. I direct my hands to scrape each side of the row, the swiftest going ahead, passing his hoe through the row, cutting out the breadth of his hoe, six to eight inches, leaving a few stalks, "chopping out" again, and so on. The second hand coming after, and thinning these "few stalks" to a single one, and in going over the second time, "chop out" every other stalk, reducing to a stand of about twelve to fifteen inches—in my best land near about two feet.

It is at this time, when scraping the first time, that cotton would be most benefited by a thorough ploughing; but as my land had been well ploughed, and no weeds or grass, I saw no necessity—therefore did not plough. Some of my cotton I ploughed as often as we generally plough—three times; and some of precisely the same land I did not plough at all; the last is decidedly the best. I used the sweep instead of the plough, in new land. This would not do, the plough must then be used.

I kept my crop clean with the hoe and sweep; threw up no bed to the cotton, and worked over three times, some of it the fourth.

I planted enough corn to have amply supplied me, but the great difficulty in getting a stand in the most choice of my farm—low, wet and cold; with the severe drought prevented my making a crop. I say this, fearing you would think I planted no corn.

To return to my cotton crop, I commenced scraping earlier than is generally done here, and thin to a double stand, first scraping. I threw no earth to my cotton, and can get on my crop earlier and with less labor.

I would have ploughed oftener this season, but for want of corn, but I am confident in saying I have made as much as any of my near neighbors—and could I have had a season one month sooner, I would have made a bale to the acre, weighing 400 lbs. My crop as it is, will turn out from 600 to 1500 lbs. of seed cotton to the acre—yielding 30 lbs. of picked cotton to the cwt. After our severe rains ceased, May 13th, I did not have a "season" until the 19th of Aug. but had several refreshing showers that assisted much in maturing the early cotton. I had a shower on the 19th of June, 1st and 3d of July. I never saw a fairer chance for a crop than I had about the 1st of July; but it appeared as if the cotton only began to feel the want of rain, after getting a little. After our "season" on the 1st of August, the cotton commenced growing—was in full bloom last evening (now Thursday morning,) but we had a heavy frost last night. Thermometer 26° Fahrenheit, and no doubt vegetation stopt.

ADAPTING PLANTS TO SOILS.

The following valuable remarks, from the pen of Mrs. AGNES IBBOTSON, a lady celebrated for her agricultural and economical skill, are extracted from the Bath and West of England Society's Papers.

"I have been lately much employed in endeavoring to show that all plants should be divided, disposed or placed according to the different soils, congenial to their habits, from which they originally proceed; and that it is to the total inattention to this circumstance, that we probably owe the very strange and contradictory results constantly to be found in all agricultural reports. No person can read with attention the late accounts delivered to the House of Commons, respecting the growth of corn throughout this kingdom, without being struck with the contradictory returns transmitted of the whole; and without being convinced that there must be some hidden cause for such a

strange diversity in the gains of the farmer: as there are many instances adduced in those reports, of the same excellent management, where the same seed has been sown, an equal degree of labor performed, with the same season, time and manure employed, and one farmer has gained three times as much again as was expended for putting in the crop, while another has scarcely exonerated and repaid himself for the labor and seed; what then could be the cause of the loss of the latter, and the gain of the former? It must, I am convinced, be chiefly owing to the agreement or disagreement of the plant with the soil in which it is placed, its situation and aspect; three things of which the farmer knows but little, or ever takes into his calculations. He has but one way of putting in plants, *loading the earth with manure*. But to adapt the plant to the soil from which it originally came, to *suit* also the manure to both that they may exactly agree, and not injure the vegetable; that the situation of the plant may be consulted, with respect to humidity and dryness; and that to complete the whole, the aspect also may be fitted, so that the plant that *loves the sun* may be exposed to it, while that which prefers shade may receive it: these are attentions truly wanting to our agricultural system, as I hope to show.

"It has been a subject of considerable inquiry among agriculturists, as in what consists the food of plants. Some have attributed it to water, some to earth, and others to air. To all these sources vegetation is indebted; the fertilizing principle of all manures is referable to the extractive matter arising from decomposed animal and vegetable recrement, and in this state soluble in water, which is the carrying medium into the vegetable substances. Vegetables in general will not grow in pure earth, or pure water, some plants are so organised as to require only mechanical support from the soil, abstracting their nourishment from the atmosphere by means of their leaves; whilst others from their roots depend upon the soil for their support. Although many plants will grow in different soils, yet they have all their favorite ground; and it is more easy to accommodate the plant to the soil, than to adapt the soil to the plant. By knowing, therefore, what sort of plant the farmer is going to put in, he may of course be regulated with respect to the quantity and species of manure required, the aspect wanted, and the degree of humidity and dryness requisite for the plant. All plants came originally from a peculiar earth; either from clay, sand, gravel, chalk, or loams formed from a mixture of some of these, or from a very wet or dry soil; and though many plants will grow indifferently in several species of earth, yet they have all their favorite ground, that which they *evidently prefer*. Now to make the soil fit for the plant, is certainly a very expensive thing; but to adapt the plant to the soil, is not only an easy and expeditious mode, but one which requires infinitely less assistance in dressing, labor, seed, and care of every kind. It is true that all cultivated plants demand some manure, because nature gives not salt and oil enough in *my earth*, to do without some assistance of this kind; but the plant that is natural to the soil requires infinitely less than that which is adverse to it, and may therefore be cultivated at a quarter of the expense. Now nature is so bountiful, that there is scarcely a plant necessary to the food of man and animals, that, if we choose with care, has not one peculiar sort, calculated for every soil.

"Nature has been bountiful in plants peculiarly adapted to agriculture, and in which there are *quits* as many species fitted for poor land, as for rich land; and if planted in their own soils, give an infinitely greater return, and are not subject to those dreadful disorders but too common to plants placed in improper ground. I have repeatedly traced maladies arising from this source, that tainted the very means of life in a vegetable; and being constantly accustomed, when I heard of any extraordinary crop, to proceed to the place, and inquire thoroughly into the causes and management made use of by the farmer, I have gene-

ally found the success to proceed from accidentally putting the plant into that ground from which it originally issued, and manuring it according to the quantum of juices it received from the earth, and with that matter likely to form a proper compound adapted to its wants, in short, attending to the right rules of vegetable economy, and the common process of nature.

"But I am sorry to say, that, in manuring the innumerable farms, diversely situated, I have but too often found this order reversed; the chalk plant put in sand, the sand plant in clay, and so on: and what is still more, the watery plant put in dry ground, and the dry vegetable in a wet soil; and in all these cases they cannot fail of making a very bad crop. A plant accustomed to a poor soil, placed in a good one, *rots*; while the one which prefers a *rich loam*, is starved in a *poor one*. A clayey plant put in sand, is blown out of the earth, for want of those *retentive powers* the root is used to; while the sand plant, placed in clay, decays at the root from the under moisture which it cannot bear. The chalk plant, also placed in gravel, is destroyed by its own *acidity*, which is *no longer subdued*; for most plants, if the farmer do not grudge the making of the soil, he may certainly do it, but it can never answer in point of expense. It is a strange mistake, and a most fatal one, that almost all, even some of our best gentlemen farmers fall into, viz: that they cannot manure too *highly*. Now this is so completely the cause of innumerable failures, that I am most anxious to censure the practice. It always reminds me of the account given by Miller, of what was done in the *West Indies*, when some botanists were desirous of bringing over some fine plants of the *cactæ* species. They inquired not what the plants were, but wholly inattentive to their being *rock plants*, they put them into tubs of the richest soil they could procure; the *plants all died*: but this was looked upon as an accident, and the same process again followed, when one of the casks breaking, they concluded that the plants must die, as the earth had left them; and flinging on them some dry sand, which happened to be in the way, ordered the casks down to the hold, when to their great astonishment, the plants so treated, *lived*, while those in the other cases died as usual. This opened the eyes of the gardeners with respect to rock plants; but to this day, sand plants, instead of having a poor soil, generally receive a rich one. There is not a more ruinous effect than that produced on the plant of a poor soil placed in rich ground.

"Some time since a gentleman brought me some turnip roots that had failed for several years; and the potatoes had equally been vitiated the preceding year. When I dissected the plant, I found the wood or sap vessels of the root were rotted off, and in their stead a number of large bladders of putrid water remained as a sort of swelled and distorted root. But almost all nourishment from the earth was suspended, and the leaves alone retained a sort of life, from the nutriment they received from the atmosphere. The potatoes were nearly in the same condition, the roots all decayed, not forming any bulbs; but when peas and vetches were placed in the same ground, they grew remarkably well. Now this is certainly a proof that a plant can be destroyed by a decided aversion to the soil in which it is placed; which will notwithstanding, agree with many other vegetables; and that the plants of a poor soil can be as much hurt in a rich one, as the plant of a rich in a poor soil.

"I have also known the same disorder seize trees, on being put into ground too rich for them. A friend of mine having just made a garden, which was not yet walled in, left a row of the *salix caprea*, [a species of willow,] in a hedge to shade a walk. Being desirous of having very good vegetables he manured the ground to the most excessive degree, even to the edge of the trees. In two or three years the trees began to decline, and at last got so bad that he consulted me what he should do with them. I advised the taking one for examination. I found most of the wood of

the root decaying, while the side radicles were turned into putrid bulbs. We uncovered all the rest of the trees, and flung dry sand on them, mixing it with the earth that surrounded the roots: we saved all but three.

"In tracing the various expedients necessary to a plant put out of its natural earth, I shall first mention *manure* as the most considerable. In proportion as the ground is adverse to the plant, so much more does the farmer load it with the only remedy he is acquainted with '*dressing*' to enable the plant to shoot. If the manure do not afford the juices it requires, and which its natural earth would certainly have *bestowed*, the crop *fails*; then the quantity of seeds must be more than doubled, which creates a second expense.

"One of the principal parts of farming should be thoroughly to understand the soil of each field, and its subsoil, and the sorts of plant that suits that *peculiar ground* that the farmer may be able to adapt them to the earth of which his estate consists, especially where, if he wants more variety, they are to be bought or exchanged with ease. The only desire of most cultivators is to make the farm answer in point of expense. This is all I mean by the plan I am suggesting—that every plant will yield a vast deal more in its own soil, and will repay for buying and exchanging that which would not grow without too much expense. How few are the plants which can possibly be wanted! ten or twelve at most: how easy, therefore, to suit each to its estate! A couple of different kinds of wheat for each soil; oats that agree well with it, and clovers that are naturalized to it. There are some plants that all farmers grow, but that nature seems to have made as *substitutes* to each other for feeding cattle; I mean turnips, carrots, parsnips and cabbage; they each claim a different soil. The turnips do admirably in sand, the carrots in sand also, the cabbage on clayey ground, and the parsnips in good ground: as to potatoes, though preferring a *drained boggy earth* to all others, yet they are so *necessary*, they must grow where they can. But there is a terrible mistake in this country, in supposing they should be planted in dry ground; as the potatoes (I have proved it by sixteen years' experience) will never be nearly, if not grown in tolerably *moist earth*. As to the others, one of them might be chosen as best suited. It is true that a plant grows *sick* of the ground in which it is placed too frequently; because the peculiar juices are *exhausted*, which sustained and supported it. But a year's interim is sufficient to renew all, and restore the earth to its usual vigor; especially if a fallow intervene.

"A sand plant takes the greatest part of its nutriment from the atmosphere; it is therefore loaded with hairs of various shapes and figures, which, receiving their juices from the dews, &c. prepare them according to chemical affinity, and then permit them (as soon as completed) to run from the hairs into the plant; while the roots, which are often thick and large, but which have very few *radicles*, are almost incapable of taking nourishment from the earth, and therefore the plant depends almost wholly on the exposure to the heavens; and it is on that account, peculiarly necessary for these plants, that *aspect* should be most strictly attended to, and that they should be so placed as to face the east or southeast. To these plants the soil or earth is of less consequence than the aspect; and throwing away loads of manure is really expending money without cause or effect; since it will be of little use, except warming the ground, which assists most plants, but to do which only a small quantity of dung is necessary.

"A gentleman consulted me what he should do with his ground, plagued as he was with *tussilago* [colts-foot.] He had ploughed the whole five times without effect. I only advised him to dress it thoroughly with dung; and then, the next spring, throw on a quantity of fine sand, for the soil was limestone. In two years after, repeating this again, he had not a plant of the *tussilago* left, though for five years before,

he had been laboring against it without effect: the dung killed the poor plant. Then the principle I wish to enforce in this letter is, that the plant should be *sited to the soil*, if the farmer wishes to save himself the expense of making the soil suitable to the plant."

HORTICULTURE.

NATIVE GRAPES—WOODSON AND CUNNINGHAM.
Farmer, Prince Edward Co. Va.
Dec. 11, 1832. }

While in this place to-day, I was looking over some of the late numbers of the Farmer, my attention was arrested by your editorial remarks on "Native Grapes," in No. 33. The information there sought with respect to the "Woodson" and "Cunningham" grapes was requested at the hands of Dr. Norton, of Richmond, from whom you received specimens of these varieties. As I do not find any published reply to your queries in your subsequent papers, I hope you will not deem it intrusive, if I communicate what I have gathered on the subject. I shewed your article to Mr. Samuel W. Venable, a gentleman of this vicinity, who for several years past, has paid much attention to the subject of grapes,—having made a considerable collection of foreign and native varieties,—and who has tried numerous experiments with those in question. I remember to have seen some time since in Prince, some general account of them, to whose work you can refer, as I have it not at hand; but from Mr. V. I learnt minutely their respective histories.

They are both, as far as has been ascertained, natives of this county,—both supposed to be *seedlings* of the "Bland;" and the original stock of each is still standing and alive. Some of the reasons for this supposed origin are:—that the "Bland" was generally and almost alone cultivated in the garden, and trained on trees in the yards of old settlements in this county—that no grape similar to them has been found in this region; that all the most valuable native varieties have been discovered in the vicinity of those farms where the Bland has been known to grow,—and these too are conjectured to have sprung from seed dropped by birds, or in some such manner.

The "Woodson" grape received its name from Col. Charles Woodson, a citizen of this county, who was its first cultivator, and who has long been an amateur and spirited raiser of vines and other fruits. The parent vine, supposed to be more than fifty years old, is still growing on the farm of Mr. Isaac Read, near an old family mansion; in the garden attached to which, Bland grapes are remembered to have been raised at a very early period. The leaf resembles that of the "Bland" in form, and in almost every other particular, except that the furze on the under side, is of a dark color. It stands on a high, dry soil—climbing and turning itself about the branches of an oak, which is situated on the side of a hill. It is said to have been formerly very thrifty and prolific, although it has much declined in these respects from age and want of culture. The vine and fruit are both much improved by cultivation. Mr. V. informs me that he has about forty stocks in his vineyard; which are fine growers and highly prolific,—having produced more abundantly than any grape which he cultivates—some of the bunches of the last season weighing three pounds. It buds late in the spring, is rarely injured by frost, is hardy if planted on a dry soil, will bear heavy pruning. The grapes ripen from the 10th to the 15th of Oct. and are not subject to rot. A little "domestic wine" has been made of them after the receipts of some of the old fashioned house keepers in this county, which was pronounced quite good by those who, perhaps, do not plume themselves on being critical judges in such matters.

The "Cunningham grape," is so called from Mr. Jacob Cunningham, on whose farm it was first discovered. The parent vine, (about twenty years old) whose leaf is like that of the Bland, except that the furze is of a yellow color, stands in a dry part of his

garden, and at this time covers thickly both sides and the top of an arched frame about 50 feet in length, by 12 in height.* It was never pruned save of the slips which have been distributed for propagation, (of which those sent to Dr. Norton were a part,) and yet is very prolific. The stocks in Mr. Venable's vineyard are more so than those of any other grape which he cultivates, except the Woodson. Like the latter, it buds late in the spring, and of course but occasionally subject to frost—is thrifty and prolific, and ripens from the 20th of Sept. to the 10th of Oct. much improved by cultivation and pruning. Wine has been made from it more frequently than from the Woodson—in body, smell and flavor nearly resembling Madeira.

It was first attempted here to propagate it by slips, though frequently without effect,—then by grafting with some better success—and with layers easily. Mr. Venable succeeded with the slips as well here as with other native varieties, as he thinks by setting them out in November, those planted in the spring having failed. Another mode which proved successful in forty-nine cases out of fifty, was setting out slips with but one bud, having both their ends hermetically sealed with tar. He has about eighty stocks in his vineyard. In the years 1828-9-30, a number were distributed in different parts of this state to ascertain the effect on them of different climates, situation and soil, from which intelligence will probably be received in the course of the next season.

Perhaps it might not be entirely irrelevant, were I to give a slight sketch of Mr. Venable's vineyard. About the year 1827 he determined on making an experiment, to ascertain the practicability of raising grapes in sufficient abundance and of suitable quality for making wine in this climate. For this purpose he selected two acres with a southern exposure on a slightly declining hill side. The holes in which the vines were planted were twelve feet apart, each way,—a sassafras pole, about seven feet in height, standing by each vine, with laths extending from one to the other, on which they are trained from northeast to southwest. There are in all, about one thousand stocks, chiefly procured of Messrs. Parmentier and Adlum, of which the most numerous are the Catawba, Constantia, Isabella, Schuylkill, Muscadell, Woodson and Cunningham, all of which have succeeded admirably, besides nearly forty foreign varieties, most of which have failed, either from the frosts of spring, or sun or rain in summer, burning or rotting the fruit. The experiment was an economical one, as tobacco or some other crop was planted in the intervals, and the ploughing required by that, also cultivated the vines. The holes were filled with compost, made of a mixture of stable manure, leached ashes and decayed wood. The vines from the first were thrifty, to the admiration of all who saw them, with scarce a failure,—and for three years past have been very productive. Should the next season prove favorable, he hopes to gather enough grapes to make from five hundred to one thousand gallons of wine—besides those for table use. I may hereafter give you some account of an experiment of his in wine making.

He has also about a dozen other varieties of native grapes, some of which he hopes will prove valuable, when cultivated. Your obed^t serv^t,

N. FRANCIS CABELL.

WOOD CUTTING.—An experienced agriculturist informs us that he considers it as an established fact, that the same forest land which produces sixty cords of wood per acre, when cut once in twenty years, would produce ninety cords, if the wood were cut three times during the same period. He thinks that the rapidity of the growth of wood depends much upon the frequency of cutting; and that wood land in general, would yield a far greater profit, if cleared as often as once in six or eight years.—[*Dedham Adv.*]

* A pillared shade. Qr.

(From the New England Farmer)

CULTURE OF THE VINE.

Brinley Place, Roxbury, }
Nov. 5, 1832. }

Dear Sir,—Please to publish the enclosed very interesting communication from N. LONGWORTH, Esq. of Cincinnati, on the culture of the vine, and the mode of making wine from our native grapes.

Very respectfully, your most obed^t servant,

H. A. S. DEARBORN.

Prést. Mass. Hort. Society.

T. G. FESSENDEN, Esq.

Cincinnati, Ohio }
Oct. 10, 1832. }

H. A. S. DEARBORN, Esq.

Sir,—A press of business has hitherto prevented my acknowledging the honor done me, in electing me an honorary member of the Massachusetts Horticultural Society. I was at your horticultural fair, in Boston, in Sept. 1831; and contrary to my expectation, I found your specimens of fruits, in variety and size, surpassing those I had seen in New York and Philadelphia. I little expected to see foreign grapes succeeding with you in open culture; but those I saw in the gardens in the vicinity of Boston, could not be surpassed in any part of the union. Your success is in part attributable to skillful cultivation, but more to your soil, which is better calculated for the culture of foreign grapes than any I have seen.

I did, this fall, intend sending to your Society some specimens of wine, but delayed it till too late. Next season you shall not be neglected.

To raise the grape in perfection, of domestic origin, requires but little skill. The manufacture of wines is an art that requires many years' practice, since wines, sweet or dry, red or white, may proceed from the same grape. All my German wine dressers are entirely ignorant of the principles of fermentation, and possess not the least skill in the manufacture of wine. I presume they usually sold their wines at the press to intelligent wine coopers. Most persons, who have made wine in the United States, have erred in attempting to imitate foreign wines. American wine can be made equal to some of the most celebrated foreign varieties, but they are, unfortunately, kinds not generally used or admired in the United States. I believe we could, with a little practice, make wine equal to the best Hock; but we should be told, as Mr. Sheathly, a German merchant at Baltimore, was by his friends. When on the Rhine he procured a few dozen bottles of old Hock, for which he paid a high price. On a special occasion he produced a bottle, and was told by his friends that "his cider was sour." Major Adlum manufactures wine with more skill than any person I have seen, but to effect sales, is compelled, against his better judgment, so to manufacture his *must*, as to imitate popular foreign wines. Scuppernon wine I have never seen. I procured two barrels many years since, from North Carolina, said to be of the best. They are still in my cellar. They are a compound of grape juice, cider, honey and apple brandy.

The wine I saw at little York, in Pennsylvania, was inferior to that made at Vevay, in Indiana. At the latter place they make wine from one variety of grape only, the Schuylkill Muscadell, and have very much neglected their vineyards of late years. If I am correctly informed, from this grape they have made over two hundred and fifty gallons to the acre. That the culture of the vine may be made profitable, I have no doubt. But to manufacture good wine will require skill; and persons to admire it must be accustomed to its peculiar flavor. At one vineyard this season, I made twenty-two barrels of wine. I measured off one-fourteenth part of an acre, which produced one hundred and five gallons, equal to one thousand four hundred and seventy gallons to the acre. The vines were planted six feet apart. In Europe they are often planted only three feet, sometimes nearer. Mine were

trained on stakes. If at three feet they would have been equally productive, which I am convinced they would not, they would yield nearly six thousand gallons to the acre. I am confident I can raise three thousand gallons to the acre. All my attempts with foreign grapes have thus far failed. Some seasons they may succeed, but I have met with no kind that would stand our winters, and I have tried upwards of one hundred and fifty varieties. With great skill in pruning, and covering the vines in winter, I believe some kinds may be successfully cultivated. My foreign vines often stand the severest winters, but it is when the wood ripens. In other winters, more moderate, they are killed to the ground. But the mildew will be found to be a greater enemy than our winters, owing to the humidity of our climate, for which there is no remedy.

As a general rule, our native grapes will be found to abound in leaven, and deficient in the saccharine principle. But this can always be added, and answer precisely the same purpose as if contained in the grape. Of this I fully satisfied myself by experiment. I gathered some grapes when fully ripe, and exposed them several days to the sun, housing them at night. They yielded about two-thirds the quantity of juice, the same quantity of grapes fresh from the vines produced. To the latter I added as much loaf sugar as made the saccharine principle equal. There was no perceptible difference in the wine. None of our native grapes this season, required sugar, and I have one variety so abundant in the saccharine principle, as never to require it. I shall this season for the first time, test its qualities as a wine grape. The grape is small. Bunches large and shouldered, without the tough pulp, common to our native grapes, and much admired as a table fruit. Generally speaking, our wines, like most of the French wines, will be in perfection the first or second year. Much has been said of the advantages resulting from close fermentation in the manufacture of wine. I tried it for two years in succession. The same quality of *must* was subjected to open and close fermentation. In the latter case the fermentation continued much longer, but there was no perceptible difference in the quality of the wine; I have therefore abandoned it.

In speaking of domestic wine, I should not omit the name of Mr. Herbeton. He sent me a sample of wine resembling Madeira, that, with the addition of the brandy usual in Madeira wine, and a few years age would have passed as such. Many have supposed that foreign grapes would better stand our climate if grafted on our native stocks. I have rather found it an objection. If raised from cuttings and killed to the ground, fresh sprouts will spring up from the roots. Those grafted on native vines were often killed down to the native root. I regret that more attention has not been bestowed in collecting native grapes from our forests and prairies. To them, and new varieties raised from their seed, we must resort, if we wish success. I have in my garden, a white and a green variety, raised from the seed of the Schuylkill Muscadell. I have several seasons tried raising from seed, but they have generally, when a few inches high, been killed by mildew. I shall in future, try them in hot beds. But I must close, having already trespassed more on your patience than I intended.

Very respectfully, N. LONGWORTH.

(From the Genesee Farmer.)

ON THE DURATION OF THE VEGETATIVE PRINCIPLE IN COMMON GARDEN SEEDS.

We have frequently been asked the question, "how long will such and such a species of seeds retain their vegetative powers?" and there are few points connected with gardening which is more essential for a practical man to understand. We therefore subjoin a statement of the *latest period* at which seeds most generally in demand may be expected to grow freely. It is not to be understood that the periods mentioned are

unexceptionable, but it will furnish a fair criterion of the length of time which they may be kept and expected to grow with but few exceptions.

Cabbage, cauliflowers, broccoli, savoy and kail, four years; peas, beans and other leguminous vegetables, one year; beets, ten years; turnips, four years; carrot, one year; parsnip, one year; radish, two years; spinach, four years; onions, leeks, and other alliacious plants, two years; asparagus, four years; sea kail, three years; lettuce, three years; endive, four years; mustard, four years; celery, ten years; parsley, six years; cucumber melon, gourd and pumpkins, ten or more years. Annual and perennial flower seeds generally two years. Tree seeds are not in general to be depended upon after the first year. Any seeds which are subject to the attacks of insects, such as peas, beans, turnips, radish, &c. ought to be frequently exposed to air and friction, by passing them through a sieve or winnowing machine, which clears them from dust and other filth likely to attract or harbor those destructive insects; but in general, seeds should be kept quite dry and excluded from the air as much as possible. †.

(From the Memoirs of the N. Y. Board of Agriculture.)

EXPERIMENTS IN PLANTING CHESTNUTS FOR FENCING TIMBER.

BY H. HOPKINS, OF CAYUGA.

TO JESSE BEEL, ESQ.

Sir,—In compliance with the request in your circular, I send you a detail of experiments which I have made in planting chestnuts.

I live in a country where fencing materials are likely to become very scarce, at no great distance of time, as we have no waste land unfit for cultivation. Influenced by a desire to do something for posterity, I determined to plant a field of chestnuts. Accordingly, in the fall of 1821, I procured about a peck of nuts, and kept them very choice until the setting in of winter, for fear of their being destroyed by mice and other vermin. In December, I planted them four feet apart each way; but not one of the seed came up.

Determined to persevere, in the fall of 1822 I obtained about the same quantity of nuts, and immediately planted them about four feet apart as before, and covered them superficially with leaves and light earth.—Most of them came up, and they appear to grow well.

I am of opinion, that if farmers would take a little pains in this way, they might, at a trifling expense, have a growth of timber coming on to supply them with firewood and fencing stuff, when our old forests have disappeared. As chestnut will sprout from the stump, and grow rapidly, I am told that it will do to cut off every 25 or 30 years.

REMARKS.

The experiments of Mr. Hopkins deserve to be commended. It has been observed that three-fourths of the timber now growing in England has been planted by man; and hundreds of acres are annually appropriated to new plantations, to supply the waste constantly making for the use of the arts and for fuel. In many fertile districts of our own country, where the lands are also capable of improvement, a scarcity of timber will soon be experienced, if it does not already exist. The man, therefore, who teaches by example how to raise plantations of timber, does a service, not only to posterity, but to his own generation.

Of the kinds best fitted for plantation, by quick growth and spontaneous reproduction, the chestnut and locust are pre-eminent among our native trees; though the oak must be resorted to for the purposes of naval architecture. An objection to plant the locust in this vicinity, arises from their premature destruction by the insect which preys upon the wood. The glutinous species (*Robina glutinosa*) is similar in growth, habit and wood, to the common locust,

though less hardy. It remains to be seen whether this will resist the attacks of the insect.

The following fact has been related to us as evidence of the luxuriant growth of the chestnut, and of its power of reproducing a new growth during the natural decay of the old wood. Our informant stated, that when a boy, he assisted his father to cut down a chestnut tree, which was converted into shingles, and used in covering a barn. Thirty years afterwards, he cut down one of three sprouts which had started up from the stump of the old tree, and obtained from it shingles to replace the old ones which had been laid thirty years before on the barn.

In the interior of Pennsylvania, extensive tracts are devoted to the growth of chestnut timber in the vicinity of forges and other iron works; and this timber is cut off at intervals of sixteen years, and converted into charcoal.* What stronger evidence do we want of the value of this wood, or of the economy of making plantations of it in time upon light or waste lands?

In the propagation of forest trees by seeds, the natural process by which they are produced will be our best guide. Some seeds become rancid, without great care, almost as soon as they fall from the parent stock. Such is the case with the seeds of several kinds of the magnolia. The only way in which these can be preserved, we are advised by Michaux, is, as soon as they are gathered, and before the pulp which surrounds the seed is withered, to mix them with rotten wood, or with sand slightly moistened, where they are kept cool till they are committed to the ground. Others are enveloped in an aerid pulp, and a hard shell, so firmly cemented as to require the lapse of a year, or the violent and repeated alternations of heat and frost, to excite germination.—Such are the seeds of most kinds of the thorn, (*crataegus*). And others again, which fall with the leaf, such as the chestnut, walnut, butternut, &c. (and we may include the seeds of the stone-fruit,) should never be suffered to become dry before they are deposited in the earth. We annex Michaux's method of planting the chestnut, from his *North American Sylva*, vol. iii. p. 13.

"After the ground has been carefully loosened with the plough and harrow, lines are drawn six feet apart, in which holes about a foot in depth and in diameter, are formed at the distance of four feet. A chestnut is placed in each corner of the holes, and covered with three inches of earth. As the soil has been thoroughly subdued, the nuts will spring and strike root with facility. Early in the second year, three of the young plants are removed from each hole, and only the most thriving are left. The third or fourth year, when the branches begin to interfere with each other, every second tree is suppressed. To insure its success, the plantation should be begun in March or April, with nuts that have been kept in the cellar during the winter, in sand or vegetable mold, and that have already begun to vegetate."

(It is the general practice in Maryland to allow three or four shoots to grow from the old stumps of chestnut trees, for a future supply of rail timber; and those shoots not only grow more rapidly than seedlings, but make better rails. By this mode a small piece of ground, generally fit for nothing else, furnishes an inexhaustible supply of fence timber. Cattle should not be permitted to range among the young trees.

[Ed. Am. Farmer.]

CANE COD PRODUCTIONS.—I send you a splendid White Flat Turnip, (raised in this town, Brewster, from seed purchased of you last spring) which weighs 17 lbs. divested of its top; with that it weighed 23 lbs. It measures 40 inches in circumference, and was raised by Mr. Dean Gray. [N. E. Farmer.]

LARGE APPLE.—A writer in the Gen. Farmer states that he, this season, had an apple in his orchard weighing twenty-eight ounces.

* *North American Sylva.*

RURAL ECONOMY.

(From the Vermont Chronicle.)

NEW MODE OF MAKING WINTER BUTTER.

MESSRS. EDITORS:

With this, I hand each of you three samples of butter, made within two miles from your office, on the days following, viz: No. 1, on the 3d, No. 2, on the 9th, and No. 3, on the 17th of Nov. 1832.

Though I do not think I have ever chanced to see so good butter made at this season of the year, it is no vain or boastful desire that prompts me to exhibit these samples. My only object is to communicate, with your leave, and through your columns, to the public, what I consider as a discovery in the art of making butter, and to verify in part what I communicate, by an exhibition of the results of the experiments already made.

Without further introduction, I will state the process; and I hope it is not the worse for being simple. It is this:—Place the cream in an iron kettle, over a clear fire, and bring it near, but not quite, to a boiling heat. In doing this, observe two things. 1. To stir the cream frequently, but not while over the fire. It more readily imbibes smoke when stirred than when at rest. 2. To skim off all the froth* that may rise while heating. After thus heating, stirring and skimming, remove the cream and put it into a stone churn, and set it away where it will not freeze, and let it remain till the next day. Then bring it towards the fire, and gradually and slightly warm it, — turning the churn around occasionally. It is then churned with a uniform, and rather animated motion, but with no violence. The butter will appear in about twenty-five minutes after the churning commences. That was the time occupied, as we conjecture, in churning, on the said 3d and 9th of Nov. On the 17th, the time, we know, was only 23 minutes.

You will observe that samples Nos. 2 and 3, are as yellow as June butter; and that though the peculiar rich flavor of June butter may be wanting, still there is no bitter or unpleasant taste in either sample. Please to observe also, that Nos. 2 and 3 have a waxy quality and appearance, peculiar to good butter.

The reason why No. 1, though made earliest in the season, is not as yellow and waxy as Nos. 2 and 3, we conjecture to be this—that No. 1 was warmed rather too much at the time of churning.

I milked but two cows during the time mentioned, and was only able, after supplying other demands for milk, to set about seven and a half quarts of milk each day for cream. I did not weigh the butter, but have no reason to suppose that the quantity was materially altered by the new mode of making. The cows were fed on frost-bitten grass, hay, and top stalks, with a small allowance of pumpkins or potatoes, night and morning.

The cream churned on the 3d had not been frozen, but the grass on which the cow fed had been frozen. That churned on the 9th, had been partially frozen, and that churned on the 17th had been all frozen.

A. B.

P. S. Nov. 23, 1832. Since writing the above, the experiment of making butter by heating the cream as above mentioned, has been this day again repeated, with entire success. It is perhaps unnecessary to observe that, probably, many things in the process described might be varied without injury, and perhaps with advantage. I conjecture that the secret lies in removing the froth.

CATTLE IN ENGLAND.—It is computed that England and Wales now contain, at least five millions of oxen, and a million and a half of horses.—The number of sheep about twenty millions, and eight millions of lambs.

*It may be that it is this froth which occasions all the trouble in the usual way of making butter in winter. If mixed with skimmed milk, this froth is said to make good "shortening."

Prices Current in New York, December 15.

Beechnut, yellow, 18 a 20. Cotton, New Orleans, 11½ a 13½; Upland, 10½ a 12½; Alabama, 11 a 13. Cotton Baggins, Hemp, yd. 13 a 21½; Flax, 15 a 14½. Flax, American, 7 a 8. Flaxseed, 1 bush. clean, — a 13.25; rough, 12.75 a 13.00. Flour, N. York, bbl. 6.25 a —; Canal, 6.18 a 6.43; Balt. How'd st. 6.62 a —; Rhd city mills, 6.81 a —; country, — a 6.25; Alexandria, 6.50 a 6.62; Fredericks', 6.18 a —; Peters', new, — a 6.25; Rye flour, 4.75 a —; Indian meal, per bbl. 3.87 a 4.00, per hhd. 17.50 a —. Grain, Wheat, North, — a —; Vir. 1.32 a 1.33; Rye, North, — a .90; Corn, Yel. North, 38 a —; Barley, — a .75; Oats, South and North, .45 a .49; Pens. white, dry, 7 bu. 5.00 a —; Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess, 8.25 a 8.75; prime, 5.25 a 5.75; cargo, — a —; Pork, mess, bbl. 13.00 a 14.25, prime, 11.25 a 11.72; Lard, 3 a .9.

MOUBRAY ON POULTRY.

Just received and for sale, at the American Farmer Office and Seed Store. "A Treatise on Breeding, Rearing, and Fattening, all kinds of Poultry, Cows, Swine, and other domestic animals. By B. Moubray, Esq. Reprinted from the sixth London edition, with such abridgements, and additions, as it was conceived, would render it best adapted to the soil, climate, and common course of culture, in the United States. By Thomas G. Fessenden, Esq. editor of the New England Farmer."—Price, 75 cents.

"SHAKER GARDEN SEEDS."

The Subscriber has been appointed by the United Society of Shakers, at New Lebanon, N. Y. agent for the sale of their celebrated GARDEN SEEDS, which may be obtained from him hereafter, by wholesale or retail. He has this day received direct from the Society, 14 boxes, each comprising an assortment, more or less extensive according to its size. Of these a part are small "Family boxes," containing a quantity suitable for a common garden, with a list of contents annexed. The character of these seeds is too well established to need recommendation. Apply at the American Farmer Office and Seed Store, No. 16, South Calvert-street.

I. I. HITCHCOCK.

BUFFALOBERRY TREE, OR SHEPHERDIA.

A small number of these splendid trees, natives of the Rocky Mountains, and equally desirable for their fruit, and their beauty, have just been received and are for sale at the American Farmer Office and Seed Store, No. 16, South Calvert street. Price \$1 each. Those who want them would better make early application, as the demand is great and the supply scanty.

I. I. HITCHCOCK.

RED ANTWERP RASPBERRY BUSHES.

For sale at the American Farmer Office and Seed Store. Price, 12½ cents each; \$1.25 per dozen; or \$5 per hundred.

I. I. HITCHCOCK.

MORUS MULTICAULIS, OR NEW CHINESE MULBERRY.

Superior to all others for Silkworms in these respects: 1st. The stalk is low, and therefore the leaves are more easily gathered than from large trees.

2d. The leaves are large—from ten to fourteen inches long, and from eight to twelve broad, hence much of the usual labor of gathering is saved.

3d. A method of cultivation will be imparted to the purchaser of twenty trees in this establishment, by which he will in three years have a full supply of leaves for any desirable silk establishment.

A few hundred of these trees are for sale at the American Farmer Office and Seed Store, No. 16 South Calvert street, by

I. I. HITCHCOCK.

SILKWORM EGGS WANTED.

Wanted at the American Farmer Office and Seed Store, No. 16 South Calvert street, a quantity of Silkworm Eggs, for which a fair price will be paid, by

I. I. HITCHCOCK.

WANTED,

At the American Farmer Office and Seed Store, all kinds of GRASS SEED, CLOVER SEED, and choice Domestic Animals. Apply to

I. I. HITCHCOCK.

FLOWERS.

Just received at the American Farmer Office and Seed Store "A Treatise on the culture and growth of different sorts of Flower Roots and of Green-house Plants kept in rooms, &c. to which is added a table of the Linnaean classes of botany, with their order and examples." Price 50 cents.

JENNIES WANTED.

A gentleman wants one Jenny or more, and will pay a fair price for *first rate* animals of the kind, but no others will answer his purpose. Any person having such to dispose of may hear of a purchaser by addressing

I. I. HITCHCOCK.

STRAW CUTTERS, CORN SHELLERS, &c.

SINCLAIR & MOORE, offer for sale a variety of kinds of Straw Cutters, the Cylindrical of the following sizes and prices, viz. 11 inch box at \$27. 14 inch at \$45. 16 inch at \$55. 20 inch at \$75. The smallest (price \$27) will cut 300 bushels of straw one inch long per day, and is precisely the kind spoken of in the following notice, addressed us by the proprietor of the American Farmer:

GENTLEMEN: Baltimore, October 2, 1832. John G. Eliot, for whom we bought one of your Straw Cutters last year, writes me thus, under date of Sept. 20, 1832:

"The Cutting Knife answers well. I would not be without it for the price of two."

I have much pleasure in communicating the above, for I think the instrument well deserves the compliment thus bestowed on it. Yours, truly,

SINCLAIR & MOORE, Ball. I. I. HITCHCOCK.

The second size has cut, in the vicinity of Baltimore, seven hundred bushels per day, with manual power.—The third and fourth are capable of much more, particularly with horse or water power. These machines may now be expected to go into more general use, as they can be furnished at a more moderate price.

Also circular knife self-feeding boxes at \$30. Common Dutch box at \$7.50, and smaller size at \$5.

CORN SHELLERS, with vertical cast iron wheels, very durable and easily kept in order, which shell with great ease and rapidity, price \$20. CAST STEEL AXES, with a general assortment of AGRICULTURAL IMPLEMENTS and GARDEN SEEDS.

FOX & BORLAND'S THRESHING MACHINE.

The subscriber presents to the public, the following extract of a letter from James Sykes, Esq. to whom he had forwarded one of his threshing machines, (on Fox & Borland's principle) to get out his crop with, for the purpose of testing its merits. Having received very flattering accounts of their performance from various sources, he is now ready to receive orders for them, to furnish the machine with or without the horse power, the latter he would prefer, if his customers could furnish themselves with suitable horse powers.—Those wishing to obtain these machines for the coming season, should lose no time in forwarding their orders.

J. S. EASTMAN.

Mr. J. S. EASTMAN: Sykesville, Nov. 28, 1832.

Sir,—Your threshing machine would have left here this morning but for the neglect of my overseer; I will myself attend to putting it upon the car in the morning. I have given it a fair trial and consider it far superior to any other threshing machine which has come under my observation, and I have seen and used several.

On Saturday last, I got out a rick of oats, running the machine four hours and two minutes; upon cleaning and measuring the oats found them to measure 192 bushels, being nearly at the rate of 50 bushels per hour. Yesterday I threshed two stacks of wheat, having the machine in operation five hours eleven minutes, (5 h. 11 m.) on cleaning and measuring the wheat to-day; find, 115 bushels; averaging upwards of 20 bushels per hour, the straw of the wheat very long; this machine is very simple, not liable to get out of order, and threshes very clean.

I feel so much pleased with the performance of your machine, that I intend to get one next season, although I have one of another plan, considering yours decidedly more safe than any other.

Very respectfully, yours, JAMES SYKES.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—A further decline will be noticed in the prices of flour and grain. Howard street flour was selling from wagons at \$5.75 dull; and the transactions from stores very limited. Beef and pork on the hoof are beginning to be quite active; drove hogs coming in in great numbers. The retail price of family pork from stores is \$1.50 to \$1.75.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 8.00 a 5.00; brown and red 4.00 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a —.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 247 hds. Md.; 25 hds. Ohio; and 12 hds. Ken.—total 277 hds.

Flour—best white wheat family, \$6.75 a 7.25; super Howard-street, 5.75 a 6.00; city mills, 5.62 a 5.75; city mills extra 6.00 a —.—CORN MEAL bbl 3.50;—GRAIN, best wheat, 1.10 a 1.12; white do 1.15 a 1.20;—CORN, white, 54 a 55, yellow, 55 a 56.—Rye, 72 a 73 —OATS, 40 a 42.—BEANS, 75 a 80.—PEAS, 65 a 70.—CLOVER-SEED 7.00 a 7.50.—TIMOTHY, — a —.—ORCHARD GRASS 2.00 a 2.25.—Tall Meadow Oat Grass 2.00 a 2.50.—Herd's, 75 a 87½.—Lucerne — a 87½ lb.—BARLEY, FLAXSEED 1.50 a 1.62.—COTTON, Va. 10½-12-Lob. 10 a 14—Alab. 10 a 12—Tenn. 10 a 12; N. Car. 10 a 12—Upland 10 a 12½—WHISKY, hds. 1st p. 33 a —; in bbls. 34½ a 35.—Wool, Washed, Prime or Saxony Fleece 45 a 50; American Full Blood, 35 a 42; three quarters do. 33 a 38; half do. 30 a 33; quarter do. 28 a 30; common 25 a 28. Unwashed, Prime or Saxony Fleece, 25 a 30; American Full Blood, 22 a 25; three quarters do. 20 a 22; half do. 18 a 20; quarter do 16 a 18; common, 16 a 18 HEMP, Russian, 10, \$205 a 315 —Cotton, dew-rotted, 6 a 7c. lb. water-rotted 7 a 8c.—Feathers, 37½ a 38½; Plaster Paris, per ton, 5.00 a —.—ground, 1.50 a —.—bbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for foundries, per ton 28.00 a 30.00; bar Sus. per ton, 75.00 a 85.00.—Prime Beef on the hoof, 4.50 a 5.50.—Oak wood, 4.00 a 4.50; Hickory, 5.50 a 6.00; Pine, 2.25.

CONTENTS OF THIS NUMBER.

Editorial; A bunch of Apples; Curious Vegetable—Sisal Hemp in Georgia—Bull-frogs destroy Chickens—Mr. Garnett's Weed Hook—Strawberries in Autumn—Observations on the Employment of Salt in Agriculture and Horticulture, with Directions for its Application, Founded on Practice, by Cuthbert William Johnson; Grass Lands, Potatoes, Hay, Live Stock; Horticulture, Windsor Beans, Onions, Carrots, Parsnips, Early Potatoes—Culture of Ruta Baga—Culture of Cotton in Mississippi—Mrs. Agnes Abbotson on Adapting Plants to Soils—Letter from N. Francis Cabell on the origin of the Woodson and Cunningham Grapes—N. Longworth on the Culture of the Vine and Making Wine—On the Duration of the Vegetative Principle in Common Garden Seeds—Planting Chestnuts for Fencing, Timber—New Mode of Making Winter Butter—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

The American Farmer,

Edited by GIDEON B. SMITH, is issued every Friday. TERMS.

1. Price five dollars per annum: due at the middle of each year of subscription, provided that no balance of a former year remain unpaid.

2. The manner of payment which is preferable to any other for distant subscribers, is REMITTANCE BY MAIL OF CURRENT BANK NOTES; and to obviate all objection to this mode, the proprietor assumes the risk.

3. Subscriptions are always charged by THE YEAR, and never for a shorter term. When once sent to a subscriber, the paper will not be discontinued (except at the discretion of the publisher) without a special order, on receipt of which, a discontinuance will be ordered, to take effect AT THE END of the current year of subscription.

4. PRICE OF ADVERTISING.—One dollar per square, and in the same proportion for more than a square, or more than one insertion.

7. DIRECTION OF LETTERS.—Address all BUSINESS letters concerning the Farmer, the store, or the agency, to the proprietor, "I. Irvine Hitchcock, Baltimore, Md."

Printed by J. D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, DECEMBER 28, 1832.

¶ The reader will not fail to give the Report of the Committee on Swine, of the Middlesex Cattle Show, a reading—especially those of the “Laugh and-be-fat” school.

A NEW AND VALUABLE MELON.—For many years past, the Editor of the American Farmer has been endeavoring to obtain the seeds of a melon known to exist in the south of Europe, and possessing the valuable property of keeping till late in winter. We have, indeed, several times succeeded in obtaining the seed, but untoward circumstances as often frustrated our attempts to cultivate it. We have been particularly indebted to our friend, Mr. Legare, Editor of the Southern Agriculturist, for this seed. He has succeeded twice in maturing a few melons. We have, however, never been put fairly into possession of not only the seed, but the fruit itself. Near three months since, Henry Thompson, Esq. received from his correspondent at Malaga, in Spain, two dozen melons, in fine preservation. Their true character was, at first, not suspected, and many of them were cut, and proved insipid; but on our suggesting that they were winter melons, the remainder were preserved. Mr. Thompson kindly presented us with a pair of them, which we cut last week, and though they had begun to decay, (one of them having one third of its substance rotten,) they proved very rich and fine. One was cut in the family of Mr. Thompson, week before last, that was perfectly sound, and it scented the whole house with its fragrance. These melons are very large, with a very thick greenish white flesh and thin skin. They are of a dark green, nearly smooth, with something of the appearance of a watermelon, and of an oval shape. If we can succeed in adapting these melons to this climate, there can be no doubt of their great value as a new and delicious addition to the dessert, at a season heretofore affording nothing but apples and dried fruit. Whatever can be done to ensure the success of the present attempt to cultivate it, the public may be assured, will be attended to.

CORN RAISED ON NEW AND OLD LAND.

MR. SMITH:

Hamilton County, Ohio,
Dec. 1, 1832.

The following conversation (or something like it) took place a few days ago, between two farmers, on the banks of the Ohio. It is submitted to the editor of the American Farmer, or his correspondents, for an opinion, founded on the laws of vegetable physiology.

It is perhaps necessary to premise, that a great deal of corn hereabouts was overtaken by frost, while yet green. This has happened especially in the overflowed bottoms of the river, where a number of reasons combined to produce this state of things, viz:—the prodigious flood of February last, sweeping away fences which had to be rebuilt before planting; the necessity of replanting several times, in consequence of bad seed corn, whose germinating principle had been destroyed by the unexampled severity of last winter—and thirdly, the succeeding droughts in the early part of summer.

A. Well, neighbor B. how goes it? I'm told you have plenty of *soft corn* this year, to feed out to your favorites and old cows.

B. Plenty—much more than I want. But I am glad to learn that you have none.

A. No, no, not I. I was not born in a corn-crib for nothing.

B. Well, I wish you would let me into the secret. grant your crops are generally good—but I will not admit that you are more industrious than I.

A. Not at all, on the contrary, I think you are more stirring—but from the nature of your farm you are

obliged to plant every year in new ground. Now my only secret is to plant in old ground, and I never fear having roasting ears in November.

B. “Obliged to plant in new ground!” why you speak of this as a misfortune. I thought this was what every corn grower desired. I am sure it is what brought me to the west.

A. Take care. Our old fields here, are not like your old fields, to the side of the mountains. I know that corn ripens sooner here to ground that has been cleared for twenty or thirty years, than it does in land planted for the first time, or which has not been under the plough for more than four or five years.

B. But how can that be—the grain comes up sooner in the new ground; grows faster, then why should it not perfect itself and ripen sooner than that which is more tardy in taking these necessary steps.

A. Oh you must not ask me the reason of things; all I can say is that such is the case. I state facts—I let others who have more leisure, and more learning, study into the “why and because.” I say then from experience that you may plant the same sort of corn, on the same day, in adjoining fields (an old and a new one) give them both the same attention, and in the fall the crop in the old field will be fit to gather—while that in the new, is still green and growing.

B. But is not this the reason—that in new ground as generally cleared here, there is a great deal of shade yet remain on the land, from standing trees.

A. I cannot tell—but I have a notion that if you cut your new fields *snack smooth*, and even grub up every stump, that still your corn will not ripen as soon as mine.

B. Well, suppose we leave the matter to the editor of the American Farmer. These “philosophers, whose trade is not to do any thing, but to observe every thing,” can sometimes see farther into a millstone than common folks. Perhaps he will explain the matter.

A. Agreed—and in the mean time, neighbor, as you have more of this *soft corn* than you know what to do with, and I have none, you can send your boys with a few loads over to my house, and I will give you sound corn in return. Between us we can feed it all out before it spoils.

B. Thank you heartily, and I hope you will let me know whenever I can return the favor.

The reference of the above question to the Editor of the American Farmer, or his correspondents, is very complimentary, and of course we can do no less than give our opinion. Our correspondents will be pleased also to take the matter into consideration, and favor us with their verdict. Without intending the least exclusiveness in the selection, we would respectfully ask “D. T.” to favor us with his views on the subject—premitting, that the respectability of the gentleman who furnishes the subject for discussion, precludes all idea of a fictitious case having been made in the above dialogue.

To have enabled us to make a perfect investigation of the case, and hence to arrive at a satisfactory conclusion, the peculiar nature of the soils in which this phenomenon in the progress of vegetation, takes place, should have been particularly stated; if it occurs on all western soils, whether high or low, midland and prairie, this also should have been stated. From what we have heard of western soils, we infer that they are generally composed of a very large proportion of vegetable matter; that the growth of timber is very luxuriant, and the forests quite dense, and consequently the rays of the sun penetrate to the surface of the earth very rarely. When such lands are first cleared, there will of course be an over abundance of crude vegetable matter, and a degree of coldness and inertness in the soil, unfavorable to the rapid maturity of fruits, such as the grains of corn, &c. Hence, in the fore part of the season, the plants grow rapidly, owing to an abundant supply of moisture and crude nutri-

ment for the supply of the succulent plant; but the unfavorable condition of the soil above alluded to prevents the action of the sun's rays, or rather retards it to a late period of the season. We see this theory illustrated every year in pieces of ground accidentally over manured. Where there has been an excess of manure dropped, or where a spot of ground has received the washings of a stable yard, we find both wheat and corn, and indeed all other crops, retarded in their maturity, though much increased in succulence, and the size of the plants. Now in the case which is the subject of the above dialogue, we think this is the proper explanation; and this conclusion will be rendered the more obvious, if the maturity of the corn is accelerated by each subsequent year's cultivation of the newly cleared land, which we infer is the case, viz: if the corn ripens the second year a little earlier than it did the first, and the third earlier than the second, &c. then we are authorized to conclude, that the exposure of the soil to the action of the sun, air and frost, by clearing off the mass of vegetation, that excluded the action of these powerful agents, by breaking up the soil by ploughing, &c. has had the effect of causing the proper fermentation of the crude vegetable matter, and thus preparing it for the nutriment of plants, of warming and enlivening the soil, &c. This would of course take place more and more every year, till the soil is brought to that state most favorable to the maturity of vegetation.

Different situations of soils as to altitude, and different compositions of soils, also make a great difference in the time of the maturity of vegetation. It is a well known fact, that within a circle of ten miles round Baltimore, the city being the centre, there is as much as fifteen days difference in the season of vegetable maturity. Five miles south of Baltimore, where there is a light sandy soil, almost level with the sea, corn, peas, and all early vegetables, are raised for our market and brought here a fortnight to three weeks earlier than they can be obtained one mile north of the city. On the north side of the city the soil is cold and stiff, and elevated from one hundred to three hundred feet above the sea.

Our respected correspondents must excuse the above hasty sketch of our opinion, and should it prove unsatisfactory they must charge the failure to their own misfortune in the selection of the arbitrator.

BUFFALO BERRY AND ARKANSAS PLUM.

FRIEND SMITH:

Last spring we received from Col. John O'Fallon, of St. Louis, a package containing a quantity of plants of the Buffalo berry, Arkansas plum, and sand cherry; native productions of Missouri, accompanied by his letter, describing those fruits as valuable for the dessert and ornament; for which favor we desire to make our acknowledgments in this manner. We hope we shall have it in our power to reciprocate this, as we shall be glad to do all similar favors. New and valuable fruits, not already in our possession, will at all times be particularly acceptable, and we shall be happy to give any article we have in return. The plants above noticed appear to thrive in our climate, and should they answer the description given by Col. O'F. and others, of which we can have little doubt, from the respectability of the gentlemen, they certainly will be a great acquisition to our fruits and ornamental shrubs. Of the two first, we can spare a few fine plants to our customers. The Arkansas plum grows from four to six or eight feet high, and the sand cherry from three to five feet. SINCLAIR & MOORE.

PLANTING.—Among other instances of successful planting, “Colonel Johnes, of Hafod, was offered £100,000, for woods he had planted for his amusement.” There was wisdom in the thrifty advice of the Scot to his son,—“Be aye sticking in a bit tree; it grows while you sleep!”—*Hort. Reg.*

AGRICULTURE.

(From the State's Advocate.)

ADDRESS,

Delivered by JAMES MERRILL, Esq., at the Cattle Show, in Lewisburg, (Pa.), on the 30th October.

In obedience to the appointment of your officers, I appear before you, resolved not to refuse any labor which might be supposed suitable to accomplish the objects of our society. The mere circumstance of being called on to speak in public cannot be supposed to occasion much terror to me; but when I consider the subject I am called on to discuss, and feel my ignorance of many of its practical details, I am constrained to ask your indulgence. Another might feel a difficulty in telling what they knew. My difficulty is to know what to tell. If you should fail to hear any thing interesting now, you will hope for better things another time. We have all but one object in this association—to make it useful. We feel sure, that so long as it shall be found useful, it will continue to exist. What, then, is the use of it; and how shall that utility be increased?

The first great question in farming is this: How shall we obtain the greatest returns for capital and labor? This secret can be completely unfolded only by repeated trials. But trials in one country will not always show the truth in another. This is the true secret of the philosopher's stone; but we must take notice that the principles are very different. Very good gold may be found in one country by a way, which in another will only uncover slate-stones. It is for this reason, that we cannot fully profit by the experience of European agriculturists; or even of those of our own country, a little to the north or the south of us. The question then arises, how far can we profit by their experience? How many of their practices dare we imitate? How many of their unsuccessful experiments may be useful here; and with what variations in the details? If one man must try all these experiments, he will probably not live to know and profit by the results of one-half of them. The benefit of his actual improvements, will be confined to his immediate neighborhood. Here is one very important point, in which societies like ours are useful. One has tried one thing, and another has tried another thing, till at last they are all tried. The success or failure, the profit or loss, together with a detail of the proceedings, becomes known by our meetings, or by our publications. In all other things, union produces strength. Why should it fail here? There is no reason to suppose it will fail here. It does not. The universal experience of all countries proves, that Agricultural Societies have raised the standard of farming; and, let me be excused for saying, have expanded and liberalized, and in every way improved the minds of the farmers. Consider, also, that agriculture is the great interest of the country; that whatever importance may be attached to other pursuits, agriculture supports all and pays all. How important then, that its modes of operation should be the best! Let it further be borne in mind, that a society may promote many improvements, at a trifling expense to the members, which would be beyond the means of an individual. But how can the usefulness of our society be increased? I answer, in the first place by obtaining more members; by giving our managers the command of greater funds and enabling them, by offering more and larger premiums, to excite a greater emulation among us. Premiums are in an especial manner necessary. A man may not be able to do a thing the first time without loss, which ever after he and all others may do with a profit. Our government, by its patent law, has provided for the remuneration of the labors of ingenious men, by the exclusive use of their inventions. We ask them to communicate their discoveries to the public, and take from us such a reward for their labors as we can afford to give them. But some may say, we have the best land

and the best mode of farming now: the rest may copy after us. Indeed! I should be sorry to shake any man's good opinion of himself too rudely; but I would just say to such, if such there be, that the best cultivated acre in Buffalo valley, would in Holland be thought slovenly and unprofitable farming. I freely admit there are good farmers in Buffalo valley; but the one-half of what was a plantation fifteen years ago, yields more profit now than the whole did then. The time is approaching when the half of this division of a plantation will be a farm. It must then be better cultivated than it is now. It is a mistake to think, that any part of our country is cultivated in the best possible manner.

But will any one say this book farming is all nonsense? It answers no good purpose? How is a true thing the worse for being printed? and how much easier it is to detect a printed lie, than one that goes from mouth to mouth, with instant variations. You have the facts put down, so that they cannot be altered. And if it depends upon one man telling his neighbor, and he another, the fourth man's story bears scarcely any resemblance to the first. It might, indeed, come back to the first man as a piece of great news. Carpenters, millwrights, and workers in metals all study their books. Cloth drapers, dyers, and distillers have their books. A farmer will hunt up an old newspaper, to find somebody's new way of curing hams; but if he is asked to read in a book a way of increasing his crops, his answer is, pshaw! don't I know all about it?

The adaptation of crops to soils and climates, is for the most part the result of experiment. It surely cannot be necessary for every man to make the whole series of experiments himself, when at little expense, and without any risk, he may have the advantage of other people's experience.

But some may ask, what fault do I find with the prevailing mode of farming? I shall answer this question candidly, and without any personal allusion.

In the first place, then, I would submit, whether, as a general practice, we do not farm too much land; and whether the excess is not the greater, the poorer the land is. I repeat, that the returns for labor and capital, the profit, is what we all seek. Is it not true, that much land is farmed without profit, and much more without all the profit it ought to bring? In talking about profit, every body understands that the investment ought to be preserved safe. If a man gets the interest on his money for awhile, and loses the principal, he does not talk of profit. Should a man get ten per cent. a year for ten years, and then get no more, principal or interest, would he talk of profit. So I think, no farmer, whatever his apparent income may be, ought to talk of profit, while he suffers his land to become worse. This ought not to be called farming. It is robbery of those who come after us. There is an old story of a man who had a goose that would lay golden eggs. She did not lay them fast enough to supply his wishes, and he killed the goose. He got one egg, and the supply ceased. It is so with those improvident farmers, who push their land too hard. This principle is therefore at the bottom of all good farming, to wit, we must on no account suffer our land to grow worse. If this principle is steadily adhered to, it will grow better. It is almost impossible so to adjust our labor as that our land shall not grow better or worse. What we take off must bear a proportion to what we put on the land. Does any one doubt the truth of all this? Is it sufficiently considered in our country? On the contrary, is there not a very large proportion of farms in our district, which become annually more and more exhausted? Does this deserve to be called by the name of farming? Is this the course we should expect the owners of land to pursue? On the contrary, is it not the very course that squatters, those who sit down to skin other people's land, would be expected to pursue? Is it not true, that every man, who takes the strength out of his land in a few crops, really does kill the

goose that lays the golden eggs? Can any thing be more improvident? While a country is new, this may not be so much thought of; but our country is no longer new, and this principle presses itself upon our attention as one of first rate importance. But why do men practice on the contrary principle? partly from imitating bad examples, and partly from a habit of making most of to-day, and letting to-morrow take care of itself. It is one of the benefits we expect from our society, that its members will set better examples, and make all ashamed to follow such old and injurious practices. I trust the day is not far distant, when we shall be able to offer a good premium for the best cultivated farm in these four counties. I would urge on the members of this society to be prepared for the contest. Depend on it, the contest will be a hard one; and the best farmer in our district, be he who he may, standing as he now does, will not come within a mile of a premium five years hence. And let me further tell you, gentlemen, who live in limestone valleys or on river bottoms, that such a premium might stray away among some of our poor hills, where to live at all, argues greater agricultural skill than to grow rich on your fertile soil. Recollect that the returns for labor and capital would form the criterion; and that their capital, compared with yours, is almost nothing. Every man, then, farms too much, who cannot or will not employ capital enough to do it well.

But many err by using a rotation of crops more exhausting than the land can sustain. All agree this is wrong, and every one may satisfy himself that the practice is too general, when he sees all the land in a neighborhood, without regard to quality, cropped nearly alike. I would, as an instance, refer to the very common practice of sowing rye on wheat stubbles. Unless land is very strong, or well manured, it cannot sustain this process. But it is thought to save labor, and in order to make amends, many let their lands lie three years in clover. This is curing one mistake by another. Clover lives but two years. The third year you have the product of whatever clover seed has fallen out and vegetated in the two years, and the spaces filled with blue grass. Would it not be better, where we must raise rye, to turn under a clover sod, and sow clover seed on our wheat and rye both. The clover might be put under before the blue grass has become so abundant. It may be said, this takes more labor, inasmuch as a single ploughing of the stubbles make the land ready for the rye. There is, however, a difference of opinion in this matter. Many say a single ploughing is not enough. I would say that in all cases where a clover sod is well turned over, it ought not to be turned back till it is rotten; and it need not be, if the blue grass has not got too strong a hold. The difference of labor, then, is not so much, and the land, instead of being impoverished, is improved. In general, it may be said, that no land, where stable manure cannot be applied, will sustain a rotation in which clover does not frequently recur. I think it does not admit of a doubt, that clover ought always to go between wheat and rye; and that where corn ground is intended to lie fallow for wheat, clover ought to be sown after the corn is sufficiently worked; that without this, or an equivalent in manure, land cannot be kept from growing worse.

I cannot pretend to prescribe the most proper rotation of crops; nor would one prescription, the best for some parts, suit all through even our narrow district. But there ought to be such a succession of crops, and succession of fields on every farm, that the blue grass should never drive the clover out of the farm land; nor should any field lie so long exposed to rain, winds and storms, as to be worked into gullies. If every farmer would bear this principle in mind, he would have no great difficulty in arranging a proper, and the most proper, succession of crops and fields for his own farm. By forming and adhering to this system, the industrious and punctual farmer will always be ready for his fields, as their turn comes; and will always find his fields ready for him.

Again, the adaptation of land to keeping stock, the kind of stock, and the manner of keeping them, are not enough attended to. Where it is the fashion to raise grain, every farmer raises, or rather sows grain. When this is found unprofitable, all go over at once to cattle; and that too often without any regard to their quality. A little attention and information would remedy this.—There are farms where more grain is raised with the stock, than without it. There are other farms where stock, especially too much of it, takes every thing from a large proportion of the fields; and the manure is returned to a few of them. When things go to this extent, the fields are kept bare, and the cattle poorly fed too, one error on the top of another. In this connection it is right to speak of root cultivation, a thing scarcely known among us. In many countries farmers of dry hill sides, by the aid of turnips and other esculent roots, with their foliage, have been able to bring their stock through the droughts of summer, and the cold and piercing storms of winter, with scarcely any stoppage in their growth. Until that practice is introduced and understood here, our farmers must attend to the fitness of their land for stock. But it is right now to attend to one thing. Let what stock we do keep, be of the right sort; and let it be kept in a way not to shame us, and spare the crows. A good coat or a good steer costs no more in the raising than a bad one. On the contrary, the cost is generally less.

It may be asked, how or when those improvements shall be made. I answer, that our farming will not be perfect while all are farmers; for our surplus produce must so long reach a foreign market. There are many things which a farmer ought to raise, in order to prevent his land from growing worse, which will not bear to be carried to a foreign market. The whole attention of the farmer is turned to such things as he can sell. It is, therefore, the interest of the farmers that there should be a great many people around them who are not farmers, and who will buy and consume these things for which there is no foreign demand. The home market, besides taking many things the foreigner does not want, is also more steady than any foreign market. It is then very important to have the consumers among us; and it is for this reason, we ask mechanics and manufacturers to join us and show what they can do. Farmers already can buy from their neighbors, and pay in truck, many articles for which formerly they must have sent to cities, and perhaps to foreign countries. Many here recollect when a man was not thought to be genteelly dressed without an imported hat on his head, and then it was said the imported hat was cheaper according to its quality. Perhaps it might then have been so in money, (though not now,) but we should consider how many have been paid for with potatoes and cabbages. Never one.—The principle then is plain. The land will never be cultivated in the best manner, till it makes the interest of the farmer to raise all those things which help to keep his land from growing worse.—The farmer can never be encouraged to do this, so long as his products must seek a distant market, for many of these articles will not bear the expense of transportation. It is said that the improved farming of England was encouraged by the introduction of the culture of turnips from the continent more than by any other one thing. The manufacturers bought the wool and the meat of the animals that were fed on the turnips. This is one of the hundred ways in which this thing works in a circle.—The greater the variety of employments, the cheaper each sells his production, and yet the more profit each enjoys.

In another point of view, societies like ours have been found useful. They have patronised the best implements of agriculture, and have been the means of introducing them into general use much sooner than they could have been in any other mode. Such societies set ingenious people to work to find out something new and useful; and our show brings a great

many people together to see all the improvements which have been made, and I trust to profit by them. Let us for a moment turn our attention to silk. It is known that the United States pay foreigners nearly eight millions of dollars a year for silk and its manufactures. It is also known, that no country in the world is better fitted for raising silk than a large portion of our own. Consider a moment, what a difference it would make to our country, if these eight millions of dollars were distributed in payment of labor among our own people; and if, in addition to this, we would sell silk to other nations to pay for articles we purchase of them. Consider also, how many people would be employed at it, who would be consumers of the surplus produce of our farmers. Our society offers a premium of one hundred dollars to encourage the culture of the mulberry. Why should not some of our experimentalists try their hand at this? Silk must some day be one of the great staples of our country; and by the exertions of our members, and other societies, that time may be much hastened. Let the trial be made by one and another, and before long, the best way here will be found out. As soon as it shall be found profitable, there will be no lack of competition.

It may be thought, because I want all to join our society, and to profit by our discoveries, that I would advise all to neglect their regular business, and spend their time in making experiments. Far from it. I know experiments are necessary, but let those who make them be careful, and not run into any extravagance. I think no farmer ought to risk a whole crop, or a series of crops, on an experiment. In all such cases, there ought to be a moral certainty of the results. But almost every farmer may try an acre or two in some new way, and hit or miss he is not ruined. No man should forget, that a new wasteful way is no better than an old one. I would also entreat every one to keep constantly in mind the difference between trial and conjecture. Let every one who tells the results of an experiment bind himself down to the strictest accuracy in the facts. In no other way can they be of the least use.—We have made the trial in order to be sure; and we have no right to induce others to follow our example upon guess-work. If the thing is of consequence, it is of consequence to know it right; and no one ought to hesitate at the labor and trouble of measuring and counting, when it enables him to attain to perfect accuracy.

But the number of experiments would not need to be so numerous, if our farmers read agricultural newspapers and other publications on the subject more generally; or what would be better, if they would require our own newspapers to give more of that information, and less of violent party politics. Our printers would do it, if it was known to be more pleasing to the taste of our farmers.—Where is the man who in cool blood would not rather have his children read papers that give valuable practical information, than those libellous personal denunciations which every election is so sure to produce? It is, in fact, worth while to consider, whether the times do not require temperance in newspapers, as well as in some other inflammable and inflammatory articles. On this, as on other subjects, the united opinion and action of our agricultural societies might do much.

I cannot quit the subject without referring to one other benefit to be derived from our association, which, though last, is not in any apprehension the least.—It is this, that our fair country women are associated with us in our labors; and by their exertions contribute largely to the interest of our exhibition. It is an evidence of the freedom of our institutions—of the liberality and refinement of our countrymen, that the female sex are always treated with respect; and being neither our idols nor our slaves, they deserve our respect. While the love of kindness is on their lips, they open their mouths in wisdom. O may it thus be ever! Let us never for a moment suppose, that because they "eat not the bread of idleness," we are at liberty to relax our efforts.

In conclusion, I have only to say to you, gentlemen of the society, persevere.—Our cause is a good one, and while it promises many benefits, it does not threaten one evil to our country. Let every one try to improve. In the moral world, nobody is so great a villain that he does not think somebody worse. So in agriculture—no farmer is so slovenly and imprudent, that he cannot point out others, in his opinion at least, worse than he. This is not the kind of comparison we ought to draw. He that would go high, must look higher. Let every one see wherein his neighbor excels him, and try to overtake him; and not rest contented, when he has found a lazier man than himself in the neighborhood. Let us never forget, that after all our strivings, there is one that giveth the rain and the sunshine, the seed time and the harvest; and that we are bound to ask him and to thank him for all his blessings.

(From the Richmond Enquirer.)

MARL.

Shellbanks, Nov. 21st, 1832.

The communication from your correspondent, M. did not come under my observation until I saw it republished in the American Farmer [No. 34. Vol. xiv. page 282.] nor do I know what time may have elapsed since the first publication in the Enquirer. When thus called on, it is my duty (and one that is willingly performed) to furnish any necessary explanations, or additional information that I may possess, on the subjects that have been recently treated in my Essay on Calcareous Manures.

My answer to the earlier inquiries of "Henrico," to which M. alludes, referred to a former publication for details respecting the appearance and value of gypseous earth: but in neither piece did I leave any grounds for the inference, (which M. correctly opposes,) that the mere existence of the impressions of shells in any earth, proved it to have value as a manure. On the contrary, it was expressly stated in my answer to "Henrico," that, "If the earth in question contains enough gypsum to be valuable as manure, its presence may be detected either in small transparent crystals, or in a powder," &c. It was also stated that this earth contained no carbonate of lime: and of course it can have no value as a *calcareous* manure. In the whole distance that the bed of gypseous earth is exposed to the eye along the river bank in Prince George, (about seven miles,) there are only three or four spots where it is rich enough in gypsum to be useful as manure, as is more fully stated at page 139 of the Essay. When enough of the gypsum remains, (as in the bank at Evergreen,) this earth will prove a most valuable manure *after* marl: but, in most cases, the gypsum that may be supposed to have existed at some former period, is entirely lost, or remains in such small proportions as not to be worth using. The earth in this neighborhood, which retains the impressions of shells without containing any carbonate of lime, certainly was formerly, what we (improperly) called *marl*—and the shells as certainly were changed to sulphate of lime, before their substance was principally or totally removed. An examination of the bed will best establish the correctness of these opinions. It is only to earth of this kind that I have applied the general name of gypseous earth. From the description given by "Henrico," I supposed the bed he spoke of, to be a similar formation: but in that opinion I may have been mistaken. The total disappearance of shells that once existed in the other localities mentioned by M. is even more unaccountable than in our gypseous earth. Many of the loose stones in the bed of the stream nearest the White Sulphur Spring, when broken, present innumerable impressions of various shells, without a particle of either the carbonate or sulphate of lime being present—and such impressions may also be found on the silicious rocks that lie near the spring.

I regret that the obscurity of my language, or some

other reason, has caused your correspondent to mistake my meaning on another point, to which he has more particularly called my attention. The quotations from British agriculturists presented in my Appendix (p. 207 to 219) were brought as proofs of the charge previously made (p. 100) of the loose, inaccurate, and contradictory manner in which the terms *marl* and *marling* had been generally used—and the erroneous impressions that cursory and even extensive readers would thence receive. So far was I from coinciding with the opinions conveyed by most of the quotations—or from recommending the clay in marl as an important part of the manure, that I endeavored as much as possible to guard the reader against retaining any such impressions, and applying them to the practice I recommended under the same name: and the latter was defined as being “*simply the application of calcareous earth in any form whatever, to soils wanting that ingredient*” (p. 100.) But while proving the remarkable and general want of precision in written authorities, as to the nature of the marls they speak of, and of the soils to which they were applied, it was far from my intention to deny that correct opinions were entertained (and sometimes expressed,) by scientific agriculturists on these subjects: Indeed the admission is expressly made, p. 100 and 214. But still these are only exceptions to the general rule, which is furnished not only by the whole mass of writings, but by the greater part of those of each individual author. The quotation from Bundeley (p. 212) is a most striking proof of the erroneous opinion that an extensive reader of agricultural works, among which Young’s and Anderson’s stood prominent, could not avoid forming as to the nature of marl. We, in this country, have increased the previously existing confusion by applying the term *marl* to a substance which no European author meant to include under that name, (for the shell marl, of which Scottish writers speak, is a peculiar formation in fresh water lakes)—and there seems but little hope of the essential quality and operation of marl being clearly expressed and understood, until we limit its application, as it should be, to the *calcareous clay* which mineralogists call *marl*, and adopt some new term for our beds of fossil shells. With this view, I ventured to propose the substitution of the term *calx*, to designate calcareous earth in that and every other form, and *calzing*, for the application of manures of this nature.

In answer to another general inquiry made by M. I have to state, that I have applied clay (a kind of fuller’s earth) containing no calcareous earth, to a sandy loam, at the rate of six hundred bushels to the acre—and that so little effect was produced, that there was no inducement whatever to repeat the experiment. Indeed, the outlines of the space so manured could no where be traced by any superiority in the growth, nor has the soil been even stiffened by the clay, for the change to be perceptible.

Respectfully,

EDMUND RUFFIN.

THE HOPESTOWN OAT.—No season, since the discovery of this new variety in 1823, has afforded so complete a test of its merits, as the present. Oats of every kind have a rich luxuriant appearance this season; but the Hopetoun still preserves its superiority in earliness, length of straw, and closeness of crop. A small field of ten acres on the farm of Haughland, near Elgin, was sown the 16th of March on a wheat stubble, and had about ten single cart loads of manure per acre. The whole was fully in ear on the 10th of July, and should the weather prove dry and warm, might be expected to be shorn on the 10th or 12th of August. Last year the Hopetoun oat was cut on that farm, 11th August. Persons of skill have valued the field at ten quarters per acre. This variety, seems therefore, well deserving the attention and culture of farmers.

[Scotch paper.]

HORTICULTURE.

ON THE ADVANTAGES OF USING COW-WASH IN THE GROWTH OF VEGETABLES.

BY MR. WILSON, CRESWELL HALL, STAFFORDSHIRE.

Some of the readers of the Register, may not altogether be aware of the benefits to be derived from the use of cow-wash in the growth of vegetables. The market gardeners in the vicinity of Glasgow, use it in great quantities, which they procure from cow feeders in the city, at the rate of four pence per barrel, (a common herring barrel), and I can from observation vouch for its efficacy. Cauliflower, cabbage, broccoli, celery, and asparagus thrives amazingly with it, and I have applied it myself to gooseberries, currants, raspberries, &c. with excellent effect. They apply it after this manner: a little earth is drawn round the stem of the plant or tree in the form of a basin, into which the liquid is poured. If it be dry hot weather, this is done in the evening, but if the weather be moist it may be done at any time. When this has been performed two or three times, the plants are earthed up, and receive no more of it. They apply it to their asparagus beds at any time from the beginning of March to the beginning of April. Their celery is planted on ridges five feet wide, in rows across the ridge, at twelve inches from row to row. Before planting they flood the ridge with the wash, having previously dug the bed with a little manure. Nothing answers better than this wash for turnips. I have seen most excellent crops when no other manure was used. The ground for this purpose was well soaked with it during winter. To try the experiment I dug a plot of ground without giving it any manure; one half of this I watered with the wash previous to sowing, and the other half was sown without; the difference was very great; the part watered bore turnips of a fine clear skin and color, and at least a third larger than the unwatered land. Any of your readers who wish to excel in growing vegetables, may stir up a small quantity of cow-dung with the wash, and if applied when the plants are in a growing state, I hesitate not to say it will answer their highest expectations: this I speak from experience, as cauliflowers, cabbages, and gooseberries, which have obtained the prizes, I have watered with my own hands. I am satisfied, if farmers in this country were to have a barrel sunk in one corner of their cow-house, and the wash drained into it, and with a water-pot or other means, apply it to their land in moist weather, they would find their labor would not be lost.

[Gardener’s Mag.]

(For the Genesee Farmer.)

CAULIFLOWER.

Medina, Orleans Co. Oct. 22, 1832.

This vegetable is extremely delicate, and is esteemed equal to any other for its excellence wherever it is cultivated and known. To what extent it may have been cultivated in this state, or in any part of the state, I am unable to say, as I have never seen much written on the subject; it occurred to me, however, that it might be cultivated to great advantage in the latitude of Rochester. Two years passed away before I could obtain seed. Last winter I obtained some,—and on account of the backwardness of the spring, I omitted sowing until the middle of May. This produced me a lot of sickly plants, partly owing to the coldness of the weather, and partly by being sown on the north side of a board fence, which kept the sun from them a great part of the day. The middle of July I transplanted them into good, rich, warm, quick soil, about two feet apart each way, twenty in number; the manner of cultivation nothing different from that of cabbage. On the 9th inst. I cut a head which measured forty-four and an half inches in circumference, and weighed eight pounds and three ounces,

making a sufficient quantity for three meals for a family of nine persons. I have thirteen or fourteen more, several of which are superior in quality to the above. To those who are acquainted with the article, I need not point out its qualities; and to those farmers and gardeners who are ignorant of its worth, remain so no longer. Get your seed this winter, cultivate them next season, and if you are not well paid for all your trouble, you shall have no more of my advice. If any information should be desired as to cooking and preparing the cauliflower for the table, all I possess shall be cheerfully communicated, as much depends on the cooking to make it all you desire.

OTIS TURNER.

PROTECTION AGAINST MICE.—Mr. John Spieker, of East Barrington, N. Y. in an article published in the N. E. Farmer, vol. x. p. 587, gives a method, which he adopted with success to protect his nursery and other grounds from field mice. He says, “I took in a basket a bushel of shelled corn, and sowed it throughout the nursery in the grass. I then turned in twenty or thirty young hogs, and after a day or two, I sowed another bushel; the shoats rooted the grass all over, and destroyed the mice in their habitations. Last fall I practiced the same method, and find no appearance of mice. I have probably a thousand apple trees that are from one and a half to three inches in diameter, standing in grass fields. I pastured sixty or seventy hogs in them that contained the apple trees, and many times the hogs ran in the other fields, and there is no appearance of mice in any field where the hogs have run. I was so much in favor of the plan, that I turned them into the meadows, and let them into all my fields, except where grain was sowed; and although mice have been so numerous, I can discover very little of their work on my farm containing three hundred acres of improved land, and quite a portion of mucky land, such as is generally selected by mice as their residence. I would observe, that there have been great complaints, and much damage done about this section of the country. Now it remains for others to say whether the hogs eat up the mice as they do the rattlesnakes, or whether their trampling and continual rooting drive them off.”

(From the Genesee Farmer.)

SILKWORMS.

Mr. Editor: York, N. Y. Oct. 10, 1832.

Though a departure from the beaten track, in the pursuit of an object, is by some thought a misdemeanor, yet I venture to offer an experiment or two, in the hope that others will act and judge for themselves. When my silkworms were about ten days old, I placed a few of them on the mulberry, in order to ascertain whether they could be raised in the open air.—These few remained fifteen days exposed to the vicissitudes of the weather, at the end of which time they were at least one-fourth larger than those of the same age, kept in the house. They were exposed to several heavy showers of rain, and about the 17th of June, to a cold storm, which lasted two or three days, the wind shifting from northwest to north and northeast, and the mercury sinking from 88 to 40 degrees. Yet the worms, at the return of sunshine, appeared as active and vigorous as ever. They continued to thrive about a week after this storm, when a lady bird assumed their superintendence, much to my disappointment; and, I believe, had she allowed them to remain under my care, they would have done better than those reared in the usual manner. If the silkworm can be raised in the open air, in this climate, it will save much time and expense, besides being an additional inducement for farmers to engage in its culture. I hope this experiment will be fairly proved or disproved. Let those who have the mulberry in hedge rows, supply them with worms, and cover with a light netting to keep off the birds—a common fishing net will answer if nothing better is at hand.

J. S. G.

RURAL ECONOMY.

(From the New England Farmer.)

MIDDLESEX CATTLE SHOW.

THE COMMITTEE ON SWINE

Respectfully Report:—That they have diligently attended to the duty assigned them, and submit the following.

From observation in different parts of the county, your committee believe that there is no animal whose management is better understood, and more successfully practised, than that of the hog. And yet it necessarily happens that the annual exhibition is more deficient in this part, than in the case of any other animal. This remark is more particularly applicable to very large and fat swine, which cannot be driven, at all, nor transported, without considerable expense and injury. This is a misfortune, not imputable to any one; but it should be taken into consideration, in estimating the relative merits of the different parts of the exhibition.

It is believed that no other branch of husbandry is more valuable, on the whole, than this. For if it be true, that sometimes, and even often, the proceeds of pork in the market, do not much, if any, exceed what might have been taken for the corn, still the manure is an ample compensation for the labor. And it is what the farmer must have, and what he could not procure in sufficient quantity in any other way. It is true that economy must be used, in this, as in all things else, not *that* economy, which consists in parsimoniously dealing out food, after the manner of a contractor in a poor house. True economy consists in replenishing the trough, at regular and short intervals. With such management, the hogs will eat less, and fat faster. A hog, to fat well, should have nothing to prey upon his mind. It is with him, as with us, the mere apprehension of poverty often makes us poor. Feed him well, so that he may not be obliged to squeal for a living. He is, in truth, a professional character. His office is to grow fat. Let him not be disturbed with other cares. So shall his leisure hours, which would be otherwise be wasted in idle squealing, be devoted to those sound and refreshing slumbers, whose end is fatness.

Your committee have been deeply impressed with the consideration that the spot, which they now tread, is no other than the scene, where a celebrated individual of this interesting class of animals, came to a most melancholy and untimely end; and they ask leave to relate, generally, the facts connected with that tragical event. It was on a fine morning, towards the close of the last century, that the sun arose in smiling splendor and cast his cheering beams on the time-worn dwelling of the unsuspecting victim. His two legged tyrant was yet enjoying his morning slumbers, when his black man Cato, proceeded to execute the orders of the preceding evening, by removing the tenant to what they pleased to style "the new hog-house." Without much explanation, a rope was made fast to the nose of the detainee, who, not understanding exactly what Cato would be at, and doubting moreover his authority in the premises, made his appeal to the right of the strongest; inasmuch that the knight of the rope was obliged to take respite, by making the other end fast to a tree. It happened that a wood merchant, from another town, had already arrived with his load, and had left his team, in search of a purchaser. The thought struck Cato, that there would be no harm in just trying the strength of his horse; and so losing him from the oxen, he made him fast to the rope.

Your committee had well nigh forgot to mention, that the hero of the tragedy had, all along, raised his voice in decided accents against these proceedings, fearing, no doubt, that some lawyer might trap him on the ground of assent; and when he perceived that Cato intended to take advantage of horse-power, his indignation was roused to a most becoming height,

and he resisted with an obstinacy little less than human. Your committee regret to say, that it was all in vain! The horse, not understanding the precise nature of his lading, and not much fancying the looks of the driver, set off for home at full speed, with the hog at his heels. Cato stood aghast! and taking the subject into sudden consideration, cleared out, leaving appearances to explain themselves. Meanwhile the master had been awakened by the remonstrances of his hog, and the owner of the horse returned just in season to take a farewell glimpse. Each viewed the other as the undoubted author of the mischief, and a battle of words ensued, which every one will conceive, according to the powers of his imagination. They were only restrained from blows, by the necessity of looking after their departed favorites. Suffice it to add, that the horse was found safe at home, with no other injury, than being a little overstrained in his wondering department; inasmuch that, to his last day, he could never form any satisfactory opinion of the kind of business they carry on at Concord. But alas! for the sequel. The hog continued to resist manfully to the last; being left by the way side, a mangled and breathless corpse; a victim to the spirit of freedom; and a glorious example of resistance to arbitrary power! And here was split the first blood that was shed in that memorable war.

Your committee would, on no account, discuss this part of their report, without embodying therein, those useful maxims which it naturally suggests.

And they see not why a plain relation of facts should not as well be entitled to a moral, as a mere tale of the imagination.

1. Be sure to rise early and see to your hogs.
2. Never appeal to the right of the strongest, till you know with whom you are dealing.
3. Do not forget that hogs have some rights as well as other people.
4. Never set Cato to do what you can do better yourself.
5. When you come to Concord, keep watch of your horse.
6. Always suspect Cato.
7. Remember, one and all, that a rope may bring you to an untimely end.

In view of this truly tragical scene, your committee cannot but consider it as a specimen of that flagrant injustice, which has been too long exercised toward the race, of which the deceased was a worthy member. From the time of the ancient Jews, this animal seems to have been a common object of obloquy and reproach. And your committee cannot better express their own views, than by inserting herein, entire, a communication addressed to them by a sensible individual of a drove which lately passed through the county.

To the Hog Committee of the Agricultural Society of the County of Middlesex.

GENTLEMEN.—While my fellow travellers are taking their repose, and our drover his dram, I seize the occasion to address you in behalf of my species, with a hope that you will abate something of your prejudices against us, and be made more sensible of our merits and our wrongs; and I am not without some hope of exciting a *few* feeling in the members of your Society, and most especially in yourselves. We flatter ourselves moreover, that in the report, which you will soon be called upon to make, you will be induced to exercise, toward us, that charity which you profess so loudly for each other; and that you will do to us, as you would wish us to do, if called on to report our opinion of you. We all have our failings, you know; and if we find ours in the Concord Gazette, you may look for yours in the Charlestown Aurora.

We think we have some reason to complain of the conduct of your ancestors towards *ours*. The practice of *yoking* and *ringing*, introduced so long ago as the reign of William and Mary, and continued in force in your statute book to the present time, savors to us strongly of what you would call a hoggish age. We complain especially, that, while your constitutional writ of habeas corpus secures, to you, your person-

at liberty, *ours* is made to depend on the contradictory decisions of what you are pleased to call your primary assemblies, in which we are generally represented by a small minority. By your statute of 1788 Chapter 56, it is enacted among other strange things; that "any town may give liberty for swine to go at large, from the 15th day of April, to the 1st day of November, provided they be *sufficiently yoked*, and *constantly ringed* in the nose." And that it may be known what a *sufficient* yoking doth mean, "Be it further enacted, that a yoke, which is the full depth of the swine's neck, above the neck and half so much below the neck; and the seal, or bottom of the yoke, full three times as long as the breadth or thickness of the swine's neck, on which it is placed, shall be deemed and taken to be a sufficient yoking, within the true intent and meaning of this act."

It is true, that these legal enactments have, in some degree, become inoperative; but, whether this refinement in the manners of the age is to be attributed principally to your species or *ours*, it would not be modesty in us to say.

We know it would be vain to reason against your practice of ending our existence in the morning of life; inasmuch that your *interest* is your motive. We are aware that you consider us as created for your use, and we submit in silence; *saving always*, to us, and our successors, our ancient right of squeaking ad libitum, whenever you lay a finger upon us. We only ask that, during our short sojournment among you, you will treat us with greater respect, and endeavor to make our situation more comfortable. We do not like, for instance, to hear you speak of the "swinish multitude." We consider it an invidious comparison. We have also been greatly astonished in our minds, and shocked in our feelings, when we have overheard you accuse each other of "*getting as drunk as a beast*." For we are not so ignorant of men and things, as not to know that *man* is the *only animal that gets drunk at all*. And we think especially that you should cease such language, when you call to mind how kindly we *tucked up* one of your frail brethren, when he lately sought repose in our bed of straw.

We would not boast of our merits; but we hope to be excused for mentioning some of the benefits which we confer on your race. And, first of all, have we not given name and character to a society in your first literary institution? Who does not know that the "Pig Club" in Harvard University, has grown immensely wise and fat, by the immolation of our infant offspring? And again, does not your favorite dish of the bean pnt, owe the richness of its flavor, to the once despised tenant of the hog pen? And do we not often gratify your pride, aye, and fill your empty purses too, by appearing at your Cattle Shows? And are we not tolerable good company, on your way thither, and back? What supports, and sustains your militia officers, in their loftiest elevation, and in their proudest moments? Does not even your Major General rest entirely on our skins when performing his most glorious achievements at a muster?

Then again you complain of our want of neatness; and who pray furnishes you with the means of being otherwise? If we were disposed to *paint* our habitations, inside and out, as you do; or even to *whitewash* them, as you do your out houses; can you, of your own substance, furnish us with *brushes*, or any thing else for the purpose? If we were supplied as you are, who can say whether your parlor floor or *ours* would excel in neatness? Without any aid from your *flesh brush*, do we not contrive to keep our pores as open, and our skins as cholera proof as your own? With all the aids you *might* have from the *clothes brush*, are you quite sure that your outer man will, in all classes, compare with *ours*? Though we furnish you with the means of preserving your *teeth*, are they, after all, so well preserved as *our* own? Does the dandy at his glass remember, that he is indebted to our race, for the ease, with which he

brushes his hair into those bewitching forms, so satisfactory to himself, and so taking with his fair one? You think you are indebted to the boot black for making your boots shine like his own skin; but you forget that, without the material, which we furnish, there would be little difference, between the boot, which treads the hog yard, and that, which trips the parlor carpet.

But I must close. I have neither patience nor time, to mention the aid we furnish your shoe makers and your extensive manufactories, nor the thousand other ways in which we render you service. I must only add, that we esteem it most unkind and unfeeling in your race, that you should shave our murdered and helpless remains, without lather, while in the very act of taking from our backs, the article, which helps to smooth the passage of the razor, over your hardened and ungrateful faces.

But I will hope for better times; of which I seem to discover some faint dawns. And I will not conceal my satisfaction, in seeing such men appointed on the Hog Committee, and in being credibly informed that you are not insensible of the honor.

Most respectfully, your obedient servant,

PORCUS.

Your committee trust that the author of the foregoing letter will pardon them for thus putting it on the files of the Society. They consider it an invaluable document, and recommend it to the serious perusal of every member. All which is respectfully submitted,

JOSEPH ADAMS, *Chairman.*

(From the New England Farmer.)

POULTRY.

Fowls of every sort may be profitably fed on boiled potatoes and meal mixed. Hens, which do not lay in winter, should have access to pounded bones, oyster shells, or some other matter which contains lime, in some of its compounds, because something of the kind is necessary to form the shells of eggs, which are composed of the phosphate of lime.

Cobbett's Cottage Economy observes, that pullets, that is, birds, hatched the foregoing spring, are the best laying hens in winter. "At any rate let them not be more than *two years old*. They should be kept in a warm place, and not let out even in the day time in wet weather; for one good sound wetting will keep them back a fortnight. The dry cold, even the severest cold, if dry, is less injurious than even a little wet in winter. If the feathers get wet, in our climate in winter, or in short days, they do not get dry for a long time; and this it is that spoils and kills many of our fowls.

"The French, who are great egg eaters, take great pains as to the food of laying hens in winter. They let them out but very little, even in their fine climate, and give them very stimulating food; barley boiled and given them warm; curds, *buckwheat*, (which I believe is the best thing of all, excepting curds,) parsley, and other herbs chopped fine; leeks chopped in the same way, also apples and pears chopped very fine; oats and wheat sifted; and sometimes they give them hemp seed, and the seeds of nettles; or dried nettles, harvested in summer, and boiled in winter. Some give them ordinary food, and once a day toasted bread sopped in wine. White cabbages chopped up are very good for all sorts of poultry."

It has been said by other writers, that poultry, as well as pigs, are much benefited by placing charcoal, broken into small pieces, in situations to which they have access. This substance, it is said, adds to the appetites, and helps the digestion of these animals; and, as it is cheap, and cannot be possibly injurious, it may be advisable to use it as a constituent of their diet.

A proportion of animal food, mixed with vegetable food, is said to cause poultry to thrive much faster than they would otherwise. If they have space to range in, where they can pick up grass-hoppers and

other insects, they will thrive the faster. But they should for some time before they are killed for eating, be fed exclusively, on food which will not have a tendency to give a bad relish to their flesh.

(From the New England Farmer.)

RECIPTS FOR THE LADIES.

MR. FESSENDEN:

Salen, Nov. 26, 1832.

If you think the following receipts, which I have long followed in my family, (and which have the merit of being simple and attainable by all our farmers,) worthy a place in the New England Farmer, you will please insert them, and add to your subscription list the name of

A LADY.

SALEM FANCY CAKE.

'Take three pint bowls of sifted flour, one ditto of sugar, half a pound of the very best butter, five eggs, two nutmegs, a piece of lard of the size of a hen's egg, a teaspoonful of sal-aratus,—roll the whole out like short gingerbread. It will, of course, want but a little baking.

PRESERVED PIPPINS FOR DAILY USE.

'Take a dozen fair, common sized apples, their weight in sugar (or molasses) with just water enough to dissolve it, which simmer a short time—then put the apples in and boil them a few minutes till tender, grate a little nutmeg over them. They afford a simple and nutritious preserve; but must be prepared every week, as they will not keep long.

SWEET APPLE PUDDING.

'Take one pint of scalded milk, half a pint of Indian meal, a tea cupful of molasses, a tea spoonful of salt, and six sweet apples cut into small pieces—should be baked not less than three hours—the apples will afford an exceedingly rich jelly. This is truly one of the most luxurious, yet simple, Yankee puddings made.

(From the New York Farmer.)

CHEAP FODDER.

LANCASTER, (Eng.) September, 1832.

SIR,—I observe on page 180 of your current volume, that there was, during the spring, a scarcity of provender for your cattle. Our farmers make a very cheap fodder, which, as it may not be generally known in America, I take the liberty to communicate to you.

It is made of wheat chaff, or cut straw, and chapped potatoes mixed. It is prepared as follows: A common boiler is set in a furnace. Water to the depth of a few inches is first put in; and then a bottom fitted in over the water, with holes bored in it. The boiler or kettle is then filled with the straw and potatoes, and steamed until the potatoes become soft. This is found to be an excellent and cheap fodder for cattle, milch cows, &c.

Several large farmers have got steam apparatus made expressly for the purpose, which they consider to pay well. In my next, I hope to give you a description of them.

Yours,

M. SAUL.

AS IT SHOULD BE.—Two farmers, from a town near the centre of New Hampshire, each carried 2 or 300 lbs. of butter, to Newburyport, a short time since, for sale.

Their farms were close together, and as nearly alike as possible. Their pastures were similar, and the number of their cows the same. Yet the one sold his butter quick, at 19 cents. The other, after offering his all round, at the stores, made out to get 12 cents. The difference between the lots of butter, —[look to it farmers' wives and daughters!—] was simply this,—one farmer had a good dairy woman on his farm, while the family of the other made bad butter.—*Portsmouth Journal.*

BEST PREPARATION OF BLACK LEAD FOR CLEANING STOVES, &c.—Mix powder of black lead with a little common gin, or the dregs of red port wine, and lay it on the stove with a piece of linen rag; then with a clean, dry and close, but not too hard brush, dipped in dried black lead powder, rub it till of a beautiful brightness. This will be found to produce a much finer and richer black varnish on the cast iron than either boiling the black lead with small beer and soap, or mixing it with the white of an egg, &c. which are the methods commonly practised.—*Dr. Cooper's Ed. of Domestic Encyclopedia.*

[Still Better.—Mix the powdered black lead in water, and apply it with a plentiful supply of brisk "elbow grease,"—that is all that is necessary. The whole secret of giving stoves a high polish, consists in applying the lead and water with a soft brush, and brushing it briskly and perseveringly, till perfectly dry. If the mixture dries before it is brushed as above, you cannot polish it.—*Ed. Am. Far.]*

TO PRESERVE CITRON MELONS.—Cut your citron in quarters, and scrape off the green rind; pick out the seeds carefully, then lay them in alum water.—After they have laid about one day, scald them and lay them in a colander. Make your syrup to eight lbs. fruit; take six lbs. of sugar, clarify it, and put in the fruit while boiling. Boil three hours over a brisk fire, then take out your fruit and boil down the syrup, to which add two teaspoonfuls of essence of lemon.

MISCELLANEOUS.

(From the New York Farmer.)

EXTRACTS FROM THE 'JOURNAL

Of an Expedition to Explore the Course and Termination of the Niger, with a Narrative of a voyage down that River, to its Termination; by RICHARD & JOHN LANDER."

"The soil of Badagry consists of a layer of fine whitish sand, over loam, clay, and earth. The sand is so soft and deep, that no one can walk on it without considerable labor and difficulty. The natives procure the necessities of life chiefly by fishing and the cultivation of the yam and Indian corn. In the former employment they use nets and spears, and likewise earthen pots, which they bait with palm-nut. These novel instruments are furnished with small apertures, not unlike those of a common wire mouse trap. Oranges, limes, coconuts, plantains, and bananas are produced in abundance in the neighborhood. The better sort of people are possessed of a small kind of bullock, with sheep, goats, and poultry; the chief himself is a drover and butcher, and when in want of money he orders one of his bullocks to be slaughtered and publicly sold in the market. The dwellings of the inhabitants are neatly constructed of bamboo, and thatched with palm leaves. They contain several apartments, all of them on the ground floor. Some of the houses or huts are built in the cooie form, which is nearly round, and others are in the form of an oblong square; all have excellent yards attached to them, wherein lime-trees and others are planted in rows, and it gives one pleasure to look at the cleanliness and taste which prevail in these courts. The land is excessively fertile; and if the natives could only be induced to lay aside their habitual indolence, and the sluggishness of their characters, and devote a little more attention to the improvement of the soil, the country might soon be brought to an extraordinary pitch of beauty and perfection. As it is, vegetation springs forth spontaneously, is luxuriant even to rankness, and is ever pleasingly verdant.

"Between six and seven o'clock A. M. we continued our route through woods, and large open patches of ground, and at about eleven in the forenoon, ar-

rived at the borders of a deep glen, more wild, romantic, and picturesque, than can be conceived. It is enclosed and overhung on all sides by trees of amazing height and dimensions, which hide it in deep shadow. Fancy might picture a spot so silent and solemn as this, as the abode of genii and fairies, every thing conducing to render it grand, melancholy, and venerable; and the glen only wants an old dilapidated castle, or a rock with a cave in it, or something of the kind, to render it the most interesting place in the universe. There was one beautiful sight, however, which we would not omit mentioning for the world; it was that of an incredible number of butterflies, fluttering about us like a swarm of bees; they had chosen this, no doubt, as a place of refuge against the fury of the elements. They were variegated by the most brilliant tints and colorings imaginable; the wings of some were of a shining green, edged and sprinkled with gold; others were of sky-blue and silver; others of purple and gold delightfully blending into each other; and the wings of some were like dark silk velvet, trimmed and braided with lace."

"In the afternoon, or, as the natives express it, 'when the sun had lost his strength,' we departed from the town of Bidjie, accompanied by its good-natured, happy governor, and reached the banks of a rivulet called *Tow* in a very few minutes. Butterflies were here more numerous than can be imagined; millions of them fluttered round us, and literally hid from our sight every thing but their own variegated and beautiful wings."

"We therefore immediately proceeded, and traversed a rich and varied country, abounding plentifully with wood and water. A fine red sand covered the pathway, which we found to be in much better condition than any we had before seen. Sometimes it wound through an open, level tract of fine grazing land; and then again it diverged through forests so thick and deep that the light of the moon, which had arisen, was unable to penetrate the gloom, and we were frequently left in midnight darkness. It would require greater powers than we are in possession of to give an adequate description of the magnificence, solemnity, and desolate repose of the awful solitude through which we passed this evening. They were enlightened, however, at times, by the appearance of glow-worms, which were so luminous, that one could almost see to read by their golden splendor; and sometimes by the moonbeams, which trembled upon the leaves and branches of the trees. A fragrance also was exhaled from the forest, more odoriferous than the perfume of primroses or violets; and one might almost fancy, when threading his way through scenery which perhaps cannot be surpassed for beauty in any part of the world, that he was approaching those eternal shades, where in ancient times the souls of good men were supposed to wander. The woods rang with the song of insects and night-birds, which saluted us with little intermission till about ten o'clock at night, when we entered *Lartoo*, a large and pleasant town. Here we were informed that no house would be offered us, the fetish-priest having declared that the moment a white man should enter the dwellings of the inhabitants, they would be seized by their enemies and enslaved. We arrived thirsty and exhausted, but for a long time could not procure even a drop of water. Our tent had been left on the road for want of carriers, and we had made up our minds to rest under a tree, when about two hours afterwards it was fortunately brought into the town. We fixed it immediately, and having succeeded in procuring wood from the unkind inhabitants, we kindled a fire in front of it, and our people laid themselves in groups outside, while we entered, and attempted vainly to sleep."

"We have observed the country to be sensibly rising to-day; and agriculture appears to be conducted on a regular system, which is an evident proof of the active and industrious habits of the people. The

gloomy fastnesses and wildernesses of nature, such as we passed on the first day or two of our journey from Badagry, are less common as we advance; and open glades, with plantations of bananas, and fields of yams and Indian corn, all neatly fenced, met our view from the path yesterday and this morning. The inhabitants of *Lartoo* also exhibit greater cleanliness of person and tidiness of apparel, than the tribes nearer the sea; and importunate beggars have disappeared entirely."

"The women of *Jenna* employ themselves generally, either in spinning cotton, or preparing Indian corn for food. Much of the former material grows in the vicinity of the town, but the cultivation of the plant is not carried on with the spirit it deserves. Silk, which is brought overland from Tripoli, the inhabitants sometimes interweave in their cotton garments; but such, being expensive, are only worn by the higher class of people. They have abundance of bullocks, pigs, goats, sheep and poultry, but they prefer vegetable food to animal; their diet, indeed, is what we should term poor and watery, consisting chiefly of preparations of the yam and Indian corn notwithstanding which, a stronger or more athletic race of people is nowhere to be met with. Burdens with them, as with the natives of many parts of the continent, are invariably carried on the head; which, it is more than likely, occasions that dignified unrightness of form and stateliness of walk, so often spoken of, by those acquainted with the pleasing peculiarities of the African female. The weight of a feather is borne on the head in preference to its being carried in the hand; and it not unfrequently requires the united strength of three men, to lift a calabash of goods from the ground to the shoulder of one; and then, and not till then, does the amazing strength of the African appear. The greater part of the inhabitants of *Jenna* have the hair of their head and their eyebrows shaven; but the governor's ministers and servants wear their hair in the shape of a horse shoe, as a mark of distinction. It is confined to the crown of the head by large daubs of indigo; and none of the people presuming to imitate it, answers the purpose of a livery."

* * * * *
Saturday, April 17th.—At the usual hour this morning we quitted *Jadoo*, and in the middle of the day arrived at a clean, pretty little village called *Pooya*. The appearance of the country between these places is extremely fine, and resembles a magnificent orchard. On our way we met many hundreds of people of both sexes and all ages, with vast quantities of bullocks, sheep, and goats, together with fowls and pigeons, which were carried on the head in neat wicker baskets. Several of the travellers were loaded with packages of country cloth, and indigo in large round balls. They are all slaves, and were proceeding to the coast from the interior, to sell the goods and animals under their charge."

"The scenery of to-day has been more interesting and lovely than any we have heretofore beheld. The path circled round a magnificent cultivated valley, hemmed in almost on every side with mountains of granite of the most grotesque and irregular shapes, the summits of which are covered with stunted trees, and the hollow in their slopes occupied by clusters of huts, whose inmates have fled thither as a place of security against the ravages of the war-men that infest the plains. A number of strange birds resort to this valley, many of whose notes were rich, full, and melodious, while others were harsh and disagreeable; but, generally speaking, the plumage was various, splendid, and beautiful. The modest partridge appeared in company with the magnificent *Baleario* crane, with his regal crest; and delicate humming-birds hopped from twig to twig with others of an unknown species; some of them were of a dark shining green; some had red silky wings and purple bodies; some were variegated with stripes of crimson and gold; and these chirped and warbled from among the

thick foliage of the trees. It is the contemplation of such beautiful objects as these, all so playful and so happy—or the more sublime ones of dark waving forests, plains of vast extent, or stupendous mountains—that gives the mind the most sensible emotions of delight and grandeur, leading it insensibly

'To look from nature up to nature's God.'

For myself I am passionately fond of them, and have regretted a thousand times over that my ignorance incapacitates me from giving a proper representation of them, or describing the simplest flower that adorns the plains, or the smallest insect that sparkles in the air. This consideration gives me at times many unhappy reflections, although my defective education arose from circumstances over which my boyhood had no control."

"They speak of the bullocks as being as white as snow; spotted like leopards, and dotted with red and black, on a white ground. They also admire a very large and handsome species of water lily."

TO RESTORE SOUR WINE.—Take dry walnuts, in the proportion of one to every gallon of wine, and burn them over a charcoal fire; when they are well lighted, throw them into the wine, and bung up; in forty-eight hours the acidity will have been corrected.—*Hort. Reg.*

CURDS AND WHEY.—A London paper gives what the writer calls, a ready and elegant mode of procuring curds, and also a pleasant acidulous whey, by adding to a glass full of milk, a little acid. Experience will show the quantity necessary to effect the purpose.

FINE COW.—Mr. L. Jenkins, of Canandaigua, in communication of Oct. 10, to the *Genesee Farmer*, says, one of his best cows has furnished his family of fourteen persons with a full supply of milk, cream, and butter, until within a few weeks. She is mostly of the Durham breed,—has yielded two pounds of butter daily,—a part of the time more, and during the last of the season less, and giving six to seven gallons of milk every day. From two cows he one season made 322 lbs.

Wherever you see a flower in a cottage garden, or a bird at the window, you may feel sure that the cottagers are better and wiser than their neighbors.

SPRING—BY BARRY CORNWALL.

When the wind blows
In the sweet rose-tree,
And the cow lows
On the fragrant lea,
And the stream flows
All bright and free,
'Tis not for thee, 'tis not for me;
'Tis not for any one here, I trow:
The gentle wind bloweth,
The happy cow loweth,
And the merry stream floweth,
For all below!
O the Spring! the bountiful Spring!
She shineth and smilleth on every thing.

Where comes the sheep?
To the rich man's moor.
Where cometh sleep?
To the bed that's poor.
Peasants must weep,
And kings endure;
That is a fate that none can ease;
Yet Spring doth all she can, I trow;
She brings the bright hours,
She weaves the sweet flowers,
She dresseth her bowers,
For all below!
O the Spring, &c.

Prices Current in New York, December 22.

Beeswax, yellow, 18 a 20. Cotton, New Orleans, 11 a 12; Upland, 10 1/2 a 12; Alabama, 11 a 12. Cotton Daggings, Hemp, yd. 13 a 24; Flax, 13 a 14. Flax, American, 7 a 8. Flaxseed, 7 bush. clean, — a 13.25; rough, 12.50 a —. Flour, N. York, bbl. 6.00 a 6.12; Canal, 6.18 a 6.43; Balt. How'd st. 6.62 a —; Rhd city mills, 6.75 a —; country, — a 6.12; Alexandria, 6.37 a 6.50; Fredricks'g, 6.00 a —; Peters'g, new, 6.12 a 6.25; Rye Flour, 4.50 a —; Indian meal, per bbl. 3.87 a —; per hhd. 17.50 a —. Grain, Wheat, North, — a —; Vir. 1.32 a 1.33; Rye, North, — a .90; Corn, Yel. North, 70 a 90; Barley, — a 75; Oats, South and North, 45 a 50; Peas, white, 7, 7 bu. 5.00 a —; Beans, 7 bu. 7.00 a 8.00; Prowies, Beef, mess, 8.25 a 8.75; prime, 5.25 a 5.75; cargo, — a —; Pork, mess, bbl. 13.00 a 14.25, prime, 11.25 a 11.72; Lard, 9 a 11 1/2.

BUFFALO BERRY TREE, OR SHEPHERDIA.

A small number of these splendid trees, natives of the Rocky Mountains, and equally desirable for their fruit, and their beauty, have just been received and are for sale at the American Farmer Office and Seed Store, No. 16, South Calvert street. Price \$1 each. Those who want them would better make early application, as the demand is great and the supply scanty.

I. I. HITCHCOCK.

"SHAKER GARDEN SEEDS."

The Subscriber has been appointed by the United Society of Shakers, at New Lebanon, N. Y. agent for the sale of their celebrated GARDEN SEEDS, which may be obtained from him hereafter, by wholesale or retail. He has this day received direct from the Society, 14 boxes, each comprising an assortment, more or less extensive according to its size. Of these a part are small "Family boxes," containing a quantity suitable for a common garden, with a list of contents annexed. The character of these seeds is too well established to need recommendation. Apply at the American Farmer Office and Seed Store, No. 16, South Calvert-street.

I. I. HITCHCOCK.

MOUBRAY ON POULTRY.

Just received and for sale, at the American Farmer Office and Seed Store. "A Treatise on Breeding, Rearing, and Fattening, all kinds of Poultry, Cows, Swine, and other domestic animals. By B. Moubray, Esq. Reprinted from the sixth London edition, with such abridgements, and additions, as it was conceived, would render it best adapted to the soil, climate, and common course of culture, in the United States." By Thomas G. Fessenden, Esq. editor of the New England Farmer."—Price, 75 cents.

RED ANTWERP RASPBERRY BUSHES.

For sale at the American Farmer Office and Seed Store. Price, 12 1/2 cents each; \$1.25 per dozen; or \$9 per hundred.

I. I. HITCHCOCK.

MORUS MULTICAULIS, OR NEW CHINESE MULBERRY.

Superior to all others for Silkworms in these respects: 1st. The stalk is low, and therefore the leaves are more easily gathered than from large trees.

2d. The leaves are large—from ten to fourteen inches long, and from eight to twelve broad, hence much of the usual labor of gathering is saved.

3d. A method of cultivation will be imparted to the purchaser of twenty trees at this establishment, by which he will in three years have a full supply of leaves for any desirable silk establishment.

A few hundred of these trees are for sale at the American Farmer Office and Seed Store, No. 16 South Calvert street, by

I. I. HITCHCOCK.

SILKWORM EGGS WANTED.

Wanted at the American Farmer Office and Seed Store, No. 16 South Calvert street, a quantity of Silkworm Eggs, for which a fair price will be paid, by

I. I. HITCHCOCK.

At the American Farmer Office and Seed Store, all kinds of GRASS SEED, CLOVER SEED, and choice Domestic Animals. Apply to

I. I. HITCHCOCK.

FLOWERS.

Just received at the American Farmer Office and Seed Store "A Treatise on the culture and growth of different sorts of Flower Roots and of Green-house Plants kept in rooms, &c. to which is added a table of the Linnean classes of botany, with their order and examples." Price 50 cents.

FINE FULL BLOOD AND MIXED DURHAM SHORTHORN STOCK, FOR SALE.

I can supply to those who may want them several full bred improved Durham Shorthorn Cows and Heifers at from \$150 to \$300 each according to quality, age, &c. They are generally in calf by the celebrated bull Bolivar.

Also, a full bred bull, of the same breed, near ten months old—a fine animal. Price \$200.

Also, a bull calf, five months old, full bred also. Price \$175.

Also several heifers of last spring by a full bred improved Durham Shorthorn Bull out of cows of the Holstein and Bakewell cross. Price \$50 to \$75 each.

Also, several bull calves, of some age and blood, at from \$25 to 50 each. Address I. I. HITCHCOCK,

AGRICULTURAL IMPLEMENT AND SEED STORE.

J. S. EASTMAN, No. 36 West Pearl-st. keeps constantly on hand a supply of his Patent Cylindrical Straw Cutters of the various sizes, which will warrant to cut as much, according to their size, and to be decidedly superior in every respect to any similar machine made in this country.

Also, very superior Rag Cutters, for the use of Paper Mills.

Gideon Davis' Improved Patent Ploughs, of all sizes, with wrought and cast shares, and all kinds of castings for those ploughs by the piece or by the ton, as likewise for horse powers, on as reasonable terms as can be had elsewhere.

Wheat Fans, Corn Shellers, Threshing Machines, Harrows, Cultivators, &c. Likewise superior Cast Steel Axes, Hay and Manure Forks, and Scythe Snaths at wholesale and retail. Shovels, Spades, Hoes, &c. and all repairs done at short notice.

Field and Garden Seeds. Such Grass Seeds as are in market will be kept for sale. My assortment of Garden Seeds is not so extensive as advertised by some, but such as I shall offer for sale may be relied on as genuine. The following I could furnish at wholesale: viz: Superior Early York Cabbage, and Long Scarlet Radish Seeds, and Early Frame Peas, the latter raised by Richard Cromwell, Esq.

STRAW CUTTERS, CORN SHELLERS, &c.

SINCLAIR & MOORE, offer for sale a variety of kinds of Straw Cutters, the Cylindrical of the following sizes and prices, viz: 11 inch box at \$27. 14 inch at \$45. 16 inch at \$55. 20 inch at \$75. The smallest (price \$27) will cut 300 bushels of straw one inch long per day, and is precisely the kind spoken of in the following note, addressed us by the proprietor of the American Farmer:

GENTLEMEN: Baltimore, October 2, 1892. John G. Eliot, for whom we bought one of your Straw Cutters last year, writes me thus, under date of Sept. 20, 1892:

"The Cutting Knife answers well. I would not be without it for the price of two."

I have much pleasure in communicating the above, for I think the instrument well deserves the compliment thus bestowed on it. Yours, truly,

SINCLAIR & MOORE, Balt. I. I. HITCHCOCK.

The second size has out, in the vicinity of Baltimore, seven hundred bushels per day, with manual power.—The third and fourth are capable of much more, particularly with horse or water power. These machines may now be expected to go into more general use, as they can be furnished at a more moderate price.

Also circular knife self-feeding boxes at \$20. Common Dutch box at \$7.50, and smaller size at \$5.

CORN SHELLERS, with vertical cast iron wheels, very durable and easily kept in order, which shell with great ease and rapidity, price \$20. CAST STEEL AXES, with a general assortment of AGRICULTURAL IMPLEMENTS and GARDEN SEEDS.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—Flour has fallen considerably in consequence of a partial suspension of business by the late severe weather. The wagon price of Howard street yesterday was \$5.50, but we could hear of no sales from stores, and, therefore, leave our quotation blank. There is very little change in other articles of produce. Best family pork corn fed is retailing from stores at \$5.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do-ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; hne red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 3.00 a 15.00; yellow, 6.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a —.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 361 hhd. Md.; 17 hhd. Ohio.—total \$78 hhd.

FLOUR.—best white wheat flour \$6.75 a 7.25; super Howard-street, — a —; city mills, 5.50 a —; city mills extra 5.50 a —.—CORN MEAL bbl 3.50; GRAIN, best red wheat, 1.00 l. 3; white do 1.16 a 1.20; — Corn, white 56 a 57, yellow 56 a 57.—Rye, 72 a 73 —OATS, 38 a 40.—BEANS, 75 a 85.—PEAS, 63 a 70—

CLOVER-SEED — a —.—CLOVER, — a —.—ORCHARD GRASS 2.00 a 2.25.—Tall Meadow Oat Grass 2.00 a 2.50.—Herd's 75 a 87 1/2.—Lucerne — a 37 1/2 lb.—

BARLEY.—FALSKER 1.50 a 1.62.—COTTON, Va. 10.13-Low. 12.14-Alab. 10.12-Tenn. 10.12; N. Car. 10.12 Upland 10.13-WISCONSIN, hhd. 1st p. 33 a —; in hhd. 34 a 35.—Wool, Washed, Prime or Saxony Fleeces 45 a 50; American Full Blood, 38 a 42; three quarters do. 33 a 35; half do. 30 a 33; quarter do. 28 a 30; common 25 a 28. Unwashed, Prime or Saxony Fleeces, 25 a 30; American Full Blood, 22 a 25; three quarters do. 20 a 22; half do. 18 a 20; quarter do 16 a 18; common, 16 a 18

Hemp, Russia, ton, \$200 a 210. Country, dew-rotted, 6 a 7 lb. water-rotted, 7 a 8c.—Feathers, 37 1/2 a 38; Plaster Paris, per ton, 5.25 a 5.37 1/2, ground, 1.50 a — hbl. Iron, gray pig for foundries per ton 38.00 a —; high pig forges, per ton, 28.00 a 30.00; bar Sus. per ton, 25.00 a 25.50.—Prime Beef on the hoof, 4.50 a 5.50.—Oak wood, 4.00 a 4.50; Hickory, 5.50 a 6.00; Pine a 2.25.

CONTENTS OF THIS NUMBER.

Editorial: New and Valuable Melon; Corn raised on New and Old Land—Buffalo Berry and Arkansas Plum—Address delivered by James Merrill, Esq. at the Cattle Show in Lewisburg, Pa. on the 30th of October—Letter from Edmund Ruffin, Esq. on Marl—Hopetoun Oat—On the Advantages of Cow-wash in the Growth of Vegetables—On the Culture of Cauliflowers, by Otis Turner—To Protect Nurseries from Mice—On rearing Silkworms in the open air—Report of the Committee on Swine of the Middlesex Cattle Show—Rearing Poultry—Receipts for the Ladies' Salem Fancy Cake, Preserved Pippins for daily use, Sweet Apple Pudding—Cheap Fodder—The difference between Good and Bad Butter—Black Lead for Cleaning Stoves—To Preserve Citron Melons—Extracts from Richard and John Landers' Journal—To Restore Sour Wine—Curds and Whey—Fine Cow—Poetry, Spring, by Barry Cornwall—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

Special Agents for the American Farmer.

The following persons are authorized to act as Agents for the American Farmer in their several places of residence:

Boston,	John B. Russell, N. E. Farmer Office.
New York,	J. H. Gourie, at the Post Office.
Philadelphia,	D. & C. Lander, 55 Chestnut street.
Washington, D. C.	B. E. Freymuth, Marble Court.
	P. Thompson.
Petersburg, Va.	Coale & Co.
Richmond, Va.	Thomas Coleman.
Raleigh, N. C.	Joseph Gales & Son.
Camden, S. C.	P. Thornton, Post Master.
New Orleans,	Wm. McKean.
Nashville, Tenn.	Erbsbaum & Norrell.
Natchez, Miss.	Fredrick Staunton.
Port Gibson, Miss.	Passmore Hoopes.
Salem, N. J.	H. H. Elmer.
General Agent for the State of Maryland,	T. B. Breas.

DIRECTION OF LETTERS.—Address all BUSINESS letters concerning the Farmer, the store, or the agency, to the proprietor, "I. I. Hitchcock, Baltimore, Md."

Printed by J. D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, JANUARY 4, 1833.

Will our friends be kind enough to remember us in the present distribution of the "compliments of the season?" While all seasons are alike to us in our labors for their interest, it is not, surely, asking too much, that they member us once a year, with a *new year's* present ation of their subscription fee. In sober earnestness, those who have not complied with the terms of subscription to the American Farmer are desired to do so with as little delay as possible; for however trifling the amount may appear to them, they must reflect, that, as even the globe itself is composed of minute *atoms*, so is the aggregate amount of a publisher's income composed of those small items, called five dollar bills, and that without these, neither publisher, printer, paper maker, nor any of the various personages employed in an establishment of this kind, can continue their occupations one week. We feel assured that if our subscribers knew how necessary the prompt payment of their subscription is to the proper management of the establishment, to say nothing of its actual existence, every new year's day would find our list without a solitary delinquent.

To those of our subscribers who have paid us promptly, and we are glad to say there are many such,—or we should not now be able to lay this card before our readers,—we return our most sincere thanks—they are "friends in deed,"—we hope all others will enable us at least to say they are "friends in need."

The proprietor of this establishment takes this method of informing his customers at a distance, that owing to some delays in the receipt of garden seeds, fruit trees, and other articles, from distant places, many orders have not been filled as promptly as was desirable; but they may be assured that their commands will all be attended to in due time. It has been the desire of the proprietor to fill every order to the letter, and for this purpose some have been suspended till the arrival of fresh supplies, daily expected from Europe or other places. Our stock on hand is always sufficient to fill most orders, within an article or two, (which may happen at the moment to have been exhausted); but it is the proprietor's wish to fill all orders perfectly, and he hopes this will be deemed a sufficient excuse for any apparent delay. H.

AMERICAN SILK.—There is no branch of rural economy on which we delight so much to dwell as that of the domestic silk culture. Indeed, we sometimes fear our readers will think us rather too *hobby-horistical* on this subject; but we must crave their indulgence, for the time is not far off when silk will have become one of the *three* great staples of American production, and it is to these frequent jaunts on our *hobby* that the event is to be in some measure brought about. We have now several interesting items to notice on this subject, and the most directly appropriate one is, that at the present moment there is a first rate silk reeler from the north of Italy now in this country seeking employment in reeling silk. He has paid us a visit, and we have had long conversations with him, which satisfied us perfectly that he is as he professes, practically and thoroughly skilled in the art of filature. His terms are very moderate—proposing to engage at \$400 per year. This gentleman has confirmed us in all our previous opinions relative to the practicability of the silk culture in this country, the capacity of our people for acquiring the art of filature with facility, &c. We shall take pleasure in forwarding the address of this gentleman to any person requesting it.

We have much pleasure in laying the following paragraph before our readers, on this interesting subject. The Nashville, Tennessee, National Banner says:—"We have now before us a specimen of a very

neat and handsome silk fabric, which we understand was entirely the product of the industry of a lady of Virginia. The material was produced under her superintendence, it was then spun and seven yards were woven by herself, out of which a dress was made for her own use. Might not any lady be proud of wearing such a garment—a beautiful white silk, entirely of her own manufacture?"

Now we assert that every lady in the United States of common intelligence, can do as this lady has done. All that is really wanting to enable them to do it, is sufficient confidence to begin and courage to persevere. We have had much experience in teaching ladies to reel and prepare silk for weaving, and have never failed to accomplish the object when we could induce them to begin, and therefore make the above assertion upon such authority as is conclusive with us.

The following article from the New England Farmer, is copied for the purpose of shewing what are the difficulties to be encountered by new beginners, (for the lady has stated them all,) and how and by what means they are to be overcome:—

"A lady, who prohibits our making her name public, says, 'I regularly seek for more information on the silk culture, and wish much to obtain such knowledge of the improved method of accommodating the worms with mounting frames, instead of the old fashioned custom of oak branches. I began last summer the work of feeding the worms, and aided by Mr. Cobb's Manual, and the work of Dr. Pascallini, produced twelve bushels of cocoons. But after obtaining the reel from Mr. Cobb, was not able to find any one here to reel it, and have reason to fear have lost all the silk by not having it reeled in proper season.'

"I am so well convinced of the value of the mulberry tree that I have lately set out 2000 trees of three and four years old—part at regular distances, and part thick in fences.

"The plate of the mounting frame for the silk worms in Dr. Pascallini's book is not such as any common carpenter can make them by. If in Philadelphia, or elsewhere, you can obtain the best mode of superseding the branches of trees, which spoil the floss, and requires much labor to pick, you will do the silk culturist an important service; and during the season of leisure is the time for preparing for the next summer. I visited Mansfield, in July, when they were feeding the worms, with the hope of seeing the best improvements, but found the old way was still practised. I have no doubt that if there was an agent in this city, (New Haven) for the purchase of cocoons, or the silk reeled according to the improved reel, many families among the industrious classes would avail themselves of it. But during the last silk season I had many persons bring a few hundred, or a few pounds of unreeling silk to me to try to dispose of their labor, but I was unable to find a market *here* for my own; and for this cause, I heard several say that they would never have any thing more to do with silk. I am induced to name this circumstance to you, sir, in hopes that it may be in your power to remedy the evil and promote the cause. There must be a market open for all produce at the place, for small farmers cannot afford to send it to a distance."

"By the Editor. We are under great obligations to the lady who favored us with the above remarks; and should be happy if some friend to American industry, who has a practical as well as theoretical acquaintance with the manufacture of silk would oblige us with such directions as might meet the wishes of our correspondent. P. S. Du Ponceau, Esq. of Philadelphia, in a letter to Gen. DEARBORN, published in the New England Farmer, vol. ix, pp. 57, 58, says, 'I have discovered that we have in this country, from England, France, Germany, and other places, manufacturers of silk of almost every description. We have silk throwsters, silk dyers, silk weavers, silk manufacturers, all but good reellers, without which the labor of the others must be at a stand. These then are all waiting for employment, some of them in

very poor circumstances. All we want is the art of reeling and everything else will follow. As to mulberry trees and silkworms, let but a good price be given for the cocoons, and they will be produced as if by magic. Every thing, as the silk brokers say, depends upon good reeling."

Remarks by the Editor of the American Farmer.—The best material for the worms to mount upon that has ever yet been suggested is common broom corn. The straw of the broom corn is to be cleared of the seeds by an iron comb or some similar apparatus; the stalk cut off just below the bottom or junction of the straw; so much of the tops of the straws cut off as will make them of proper length to set between the shelves with the top spread out and pressing against the upper shelf, and the bottom resting on the lower shelf, thus forming an object considerably resembling a small tree. As many of these may be put into each shelf, as will accommodate all the worms on it. This is our mode, and though we have resorted to all others suggested in the books and practised in Europe, we have found none to answer so good a purpose, to say nothing of the simplicity and economy of it. As to a market for cocoons, we have so often expressed our opinion of it that we might here pass it over; but we must again say that it is impossible that filatures can be established before the material for them to operate on is obtainable; but, so soon as it shall be ascertained that cocoons can be obtained, then a market will be found for them. Then filatures will be established in every town and city that can supply cocoons for them to reel. It seems to be forgotten that markets never can precede production, but the reverse. Was there a market in any part of the world for cotton before it was produced?

In relation to the paragraph quoted from Mr. Du Ponceau's letter, we have to remark, that whenever it shall be known in Europe that we have cocoons to reel in this country, and no body to reel them, we shall have as many reelers coming among us as we now have of "silk throwsters, silk dyers, silk weavers," &c. and as an earnest of the fulfilment of this our pledge, we refer the reader to the announcement at the commencement of this article, of a first rate silk reeler now in this country seeking employment at moderate terms, as a reeler. He has been to several places to obtain employment, but cannot find cocoons enough in the country to employ him ten days. Give him cocoons to reel and he will reel them. It cannot be expected that reelers will come to this country till they have some assurance of employment. We have the gratification of being able to state that Mr. Bellati, the reeler referred to, will remain in this country till he does find employment in reeling silk—having wisely engaged in other occupations till the progress of our mulberry plantations, of which there are many extensive ones under way, shall give assurance of a plentiful and permanent supply of cocoons.

In conclusion, we beg the public to dismiss all fears as to the healthful condition of the silk culture in this country. We take the liberty of speaking *ex cathedra* on this subject, however arrogant it may appear, and even grossly egotistical, and assert that the progress of the silk culture is as rapid as a healthful condition will warrant. There is as much silk now produced as the supply of mulberry trees will warrant, and as many mulberry trees accessible as could have been expected from the time since which public attention has been directed to the subject. In a short time our mulberry orchards will be ready to feed worms; then we shall have abundance of cocoons; and then shall we have reelers and filatures and markets for cocoons, and silk to wear and to sell.

An old picture founded on a solemn fact, represents a king sitting in state, with a label, "I govern all;" a bishop with a legend, "I pray for all;" a soldier with the motto, "I fight for all;" and a farmer, drawing reluctantly forth a purse, with the superscription, "I pay for all."

AGRICULTURE.

(From the Southern Agriculturist.)

ACCOUNT OF AN AGRICULTURAL EXCURSION IN THE SPRING OF 1832.

BY THE EDITOR.

(Concluded from page 251.)

We have now given an account of the management of the several crops cultivated in these parishes; a few other matters remain for us to notice, and we shall then conclude this year's excursion.

Clearing Land.—As soon as the crop is laid by (which usually is by the first of August) those planters who intend clearing land, commence operations by cutting all the brush down, if possible, leaving the large trees still to shade the ground. If there be time, it is gone over, and the leaves, trash, and some of the top-soil collected in small beds. As soon in winter as the hands can be spared from other operations, it is returned to: by some, the large trees are then cut down, rolled into heaps, and burned; by others, they are cut down and left to rot where they fall, not being supposed to be injurious to the crops; when the beds run across, and care is taken that the trees are felled in one direction and the beds made to run at right angles with them. Others merely ring the trees and suffer them thus to remain until they decay. The trees being disposed of, the next operation, by some, is to "track out" the field, that is, the space to be planted is dug deep by the hoe, in rows, at the distance at which the crop is to be planted. Some form on these, small beds; whilst others plant the crop (especially if of corn) in these dug spaces. The intervals, in either case, are not touched until the first working, when the ground is broken up, the large roots removed, and the smaller cut into pieces and left. During the several workings, as much earth as possible is taken out of the alleys and drawn to the plants.

By some, the ground is bedded early in winter, so that the leaves and trash may rot; and in the spring, these beds are reversed, and formed where the alleys were—the large roots only are grubbed. The crop usually planted the first year is cotton, but it is seldom that it yields any thing of consequence until the second year, when the best is obtained, and the productiveness continues for several years. Peas always do well on new ground. Corn is seldom planted the first year, on account of its precariousness, rarely yielding more than seven or eight bushels per acre.

Manures.—We were highly gratified in discovering the interest which is taken by the planters generally, in the subject of manures. At one time, if a planter could get enough to manure a portion of his corn crop, he thought he did well—as to manuring his cotton, it was out of the question; and there are some who are now zealously engaged in the system of manuring, who at one time absolutely ridiculed the idea of a planter ever having as much manure as would enable him to apply any to his cotton crop. Now, great attention is paid to this subject, and it has become one of considerable importance. We witnessed, with much pleasure, the preparations made on several plantations for collecting and making manure. In one pen, the pine-straw was at least three feet deep, and they were still engaged in hauling in more. The cattle had not been in it long, and this depth would decrease as it became more trampled.

The better to secure all the advantages to be derived from penning cattle, Dr. H. Ravenell has recently erected an extensive range of sheds for his cattle. The space enclosed by these sheds and pens, is a square half-acre; the principal range is on the north side, 150 feet long and 16 feet wide, boarded on the north side, and shingled; two wings project from this, one on the western side, 40 feet long, and the other on the eastern, 90 feet in length—these both face inwards and are boarded at the backs. The pen is made by

large posts sunk into the ground, with oak rails nailed on; and the whole capped by a large piece fixed to the posts with mortises and tenons. It is divided into three divisions—one for oxen, one for milch cows, and the other for dry cattle. This pen is used only during the winter, and the cattle are here regularly fed at night on cotton-seed, corn-husks, &c.

But, although much attention is now paid to manuring, it is far from being carried on as systematically, or to as great an extent as it might be. The fact is, that even those who are most engaged, do not employ all the means within their power, nor employ all of the substances which might be collected and advantageously used. They all depend too much on the cow pen and stable; and we have heard it seriously urged, that the planters in that neighborhood never could manure all of their cotton crops, because cattle enough for this purpose could not be supported in the several ranges. This idea, we fear, has done much to retard the extension of this system, and consequently been prejudicial. It is still fresh in the memory of most of the planters, when no part of the cotton crop was manured at all, all being retained for the provision crop. Now, numbers manure, not only all of their provision crops, but even a large portion of the cotton—some as far as half. The knowledge of this fact should serve as an incentive to use greater exertions. We have, however, little fear on the subject; the importance of manuring is duly estimated by most of the planters. A commencement has been made;—thus far the attempt has been eminently successful; and we, therefore, cannot fear that, in such an intelligent community, it will either languish or be discontinued.

Before quitting this subject, we will make one suggestion; it is this—that all the materials fit for manure, and within the reach of the planters generally, are either not used for that purpose, or in much less quantities than they might be. The pens and stables are chiefly depended on, and each planter estimates his capability of manuring by the number of stock his range can support. Now we request the serious attention of the planter to this subject—let him consider well, and we are certain he will discover that he has the power of increasing the quantity of his manures greatly. Some who have but few cattle, do not employ any hands steadily at carting in trash to the pens, giving, as a reason, that the quantity would be too great for the number of animals penned, and consequently it would be weak, and when used, be of little service. We would suggest to those thus situated, that they continue to employ one cart, and two hands, steadily, and instead of hauling in pine-straw, and leaves, every day, they should bring in, only enough to form a thick layer, and then cart in on this, swamp mud, mud from the ponds, and when these cannot be had, top-soil, from the woodland, and when a layer of this has been formed, then place on it another of pine-straw, &c. thus making alternate layers, keeping the cattle penned on it nightly. In this way a large addition would be made to the usual quantity, whilst the quality would not be at all inferior.

In addition to this, each planter should have a small stercorary, or receptacle, made near the offices, into which all the soap-suds, trash, and offals, which are gathered around these may be placed, and not left to offend the eye and manure noxious weeds;—to this, the sweepings of the hen-house could be added, and earth be thrown in to absorb the surplus moisture, as it became necessary.

In manuring the crops generally, a system should be entered into, and this persevered in as far as practicable, due regard being had to the crops and the soil to be manured.

Negroes.—The work assigned to the negroes here does not differ from that in common practice in the lower country. They are well fed, well clothed, and well lodged.—The negro houses, on all of the plantations I noticed, are frame buildings, weather-boarded, elevated from the ground a foot or two, and hav-

ing brick or clay chimneys; they are generally large and comfortable. The negroes are employed after the crops are laid by (about the first of August) in making fences, clearing land, ditching, gathering and hauling in manure, and spinning and weaving. In some one of these occupations, they are engaged until the crops are ready for harvesting. There is a practice among some of the planters here, which we cannot but recommend to the consideration of the community generally, in consequence of the favorable reports we have heard of it. It is to place all of the little negroes on the plantation under the charge of some elderly person, who takes care of them whilst their parents are at work, and has their food prepared and given regularly to them. At the sounding of a horn, all are brought up (on some plantations, three times each day) and being properly arranged, as much food is placed before them as they can devour. The place fixed on for feeding them is usually near to some of the offices, and sufficiently near for the master to inspect them, and ascertain that all is conducted properly. The principal advantages are, that each gets as much as he can eat of wholesome and well cooked food, which is not always the case when it is committed to their parents; the children are more healthy, and they improve much faster.

Miscellaneous Remarks.—Most of the planters, in addition to their other stock, keep a flock of sheep; and many now make their own negro clothing and blanketing. Dr. H. Ravenell made, the last year, one thousand yards of cloth, for the winter clothing of his negroes. No cloth is wove for summer, we believe, by any, as it is found to be cheaper at present to purchase than to weave it at home.

On visiting these parishes, one will be struck with the general appearance of neatness and comfort, which is every where seen. This is apparent not only in the mansions of the planters, which are large, and many of them elegant, but also in the excellency of the offices and out buildings, as well as in the negro-houses. Nor will the visitor be disappointed, when he partakes of the hospitality of the inhabitants. Living on the productions of their plantations, and raising on them almost every thing absolutely necessary, they are indebted to the city only for such luxuries as our climate does not produce, whilst they enjoy in abundance all the substantial fare usually furnished by a southern plantation.

Most of the planters of Upper and Middle St. John's, and St. Stephen's, reside in Pineville during the summer. This village is remarkably healthy, and so situated, that it is convenient for most of them to visit their plantations every day, should they deem it requisite; this is, however, rarely the case, and the balance of the time is spent by many in visiting the crops of their neighbors. By common consent they have adopted an excellent arrangement among themselves. It is to form parties and ride over all the plantations within their reach. These are termed "visiting committees;" are formed promiscuously of any disposed to ride, and often inspect plantations at a considerable distance from the village; they never wait for an invitation, but whenever they hear of any one having either a very excellent crop, or is very much in grass, they are sure to pay a visit; and, as these are always unexpected both by the planter and overseer, they have a most beneficial effect, especially on the latter, who usually hears a great deal of criticism on all his operations, which, coming often from experienced planters, serves to show him his errors, and instruct him in his future operations.

Pineville has long been celebrated as a healthy summer residence, and as we wish to preserve a record of things as they are at present among us, we have obtained from Dr. H. Ravenell an account of its origin, and present condition, which we here give.

"Our village is situated in St. Stephen's Parish, Charleston District, about fifty miles to the north of Charleston, and four miles south of Santee River. Seven families from the parishes of St. Stephen's

and St. John's, settled themselves here in the summer of 1794, consisting of thirty-three persons—fourteen adults and nineteen children. Of these thirty-three persons, eighteen are now alive; (thirty years after its settlement,) and from those thirty-three persons, there are, now living, one hundred and eight descendants, most of whom reside, during the summer months, in Pineville.

"In 1795 it had increased to fifty-four inhabitants, of whom twenty-seven are now alive; a few, however, of the surviving twenty-seven are not inhabitants of the village. Pineville has now about forty-five houses, and two hundred and fifty-four inhabitants, of whom one hundred and five are below fifteen years of age. A statistical representation appears to exhibit the following particulars: There is an academy, incorporated in 1806, at which there are from forty to fifty scholars, and from which upwards of thirty students have entered the different colleges in the United States since its establishment. There is an Episcopal church, built and consecrated in 1811. There is a post-office, established in 1820, producing, for the last five years, a net annual revenue to the government of about \$300. There are received, quarterly, at the post-office, for the inhabitants of the village, near six thousand newspapers, and monthly, about forty periodical journals; besides a considerable number for other persons, not residents of the village. There are kept by the villagers forty-eight four wheel carriages, and about fifty two-wheel carriages. There is a store, with a revolving capital of upwards of \$35,000, doing an excellent business. There are two resident physicians in the village, and three or four others who remove here in summer, but are all compelled to depend upon other resources for their support. This argues well for the health of our village."

"We have now brought the account of our excursion to a conclusion, and will here take leave of the subject for the present. On overlooking our note-book, we find we have omitted many things which we wished to have noticed; but it appears to us that we have already extended this article to an unreasonable length, and we will not tire the patience of our readers by further extracts. We have endeavored to give a faithful account of what we saw and heard, and have purposely avoided (except in a few cases) expressing any opinion relative to the courses of culture pursued in these parishes, nor shall we deviate from this plan, in any of our future excursions. We wish not to set up our opinion as the rule by which others are to be judged, we will endeavor to give faithful accounts, and leave it to our readers to form opinions for themselves. We believe more good will be effected by pursuing this course, and giving them an opportunity of knowing the practices of different sections of country, than by entering into any discussion of their merits and demerits—whatever we find excellent we will notice, that others may follow it, that which we may deem radically wrong, we will pass by in silence. No good will be obtained by exposing to the public the bad management of any one, whilst at the same time, unpleasant feelings, will certainly be generated.

(From the Genesee Farmer.)

ON MANURES.

In our estimation, the importance of manure is such, that we again allude to the subject, and would most particularly impress upon the minds of every cultivator, that manure is the grand moving power in the production of an abundant return, and according to its richness, its being in a proper state when applied, and the quantity given, the success of the agriculturist will in a great measure depend. This is a subject which, at this season, ought never to be lost sight of; for now the farmer can with propriety spare a portion of his time in collecting and properly preparing the manures that could not conveniently be done at sea-

sons when operations must be performed which would admit of no delay.

The proper places for preserving and fermenting manures, and the proper state for applying it to the soil, are circumstances which deserve the attention of every farmer, and on the practices in general pursued, there is very considerable room for improvement, for on the state in which it is when incorporated with the soil, much of the benefit derived from it will depend. It is not our intention at present to enter into the superior qualities of any particular species of manure, as the great mass of manures collected by the farmer is a mixture of animal and vegetable matters, generally consisting of the excrementitious matter of horses, cattle, swine and poultry, mixed with straw and other sorts of litter. But the properties of the various sorts of manures applied to the soil, should be studied by every cultivator; for as different manures contain different proportions of the elements necessary to vegetation, so they require a different treatment to enable them to produce their full effects in culture; for instance, all green succulent plants which contain saccharine or mucilaginous matter, and consequently very readily ferment, should be applied immediately after their death, which will prevent their too rapidly fermenting by compression and exclusion of air; while on the other hand, manures obtained from the farm or stable yards, require at least a slight incipient fermentation previous to its application, for putrefaction is evidently the means of rendering these substances available to plants; but if too much decomposition has taken place, although it may be attended with more immediate benefit, still the loss sustained by the manure, if the decomposition has been allowed to proceed until the matter has become a saponaceous mass, must be very great; much must have been lost in the state of gases, and all that is left are a few earthy, saline, and carbonaceous particles of comparatively little value—the fibrous texture of the vegetable matter is entirely broken down—the manure has become perfectly cold, and all the carbonic acid and ammonia are disengaged, which, had they been applied and retained by the moisture of the soil, would have afforded a very great degree of nourishment to the crops, and been particularly useful and advantageous during the germination of the seed and the first stages of the growth of the plants. The manner of preserving dung, therefore,—the proper situation in which it ought to be kept, and the proper stage of decomposition at which it ought to be applied to the soil, are circumstances of the utmost importance.

As respects a proper place for keeping manures, there is a considerable difference of opinion among farmers. Some prefer keeping it under cover, some close to walls, on the north side, while others in an open yard, or take it direct to the field on which it is ultimately to be applied, and there laid up in one mass, and turned over once or twice to accelerate its fermentation. Our respected correspondent, Judge Buel, has, in a former number of the "Genesee Farmer," given a description of a shed for manure, recently erected by Dr. Husack, on his farm, at Hyde Park, Dutchess county, and which the judge speaks of in terms of admiration. A few weeks ago we paid a visit to Hyde Park, and examined the shed. It has a very neat appearance, but on making some inquiries of the gentleman who superintends the Doctor's farm, respecting its advantages and disadvantages, he decidedly condemned it, as being by no means calculated for properly keeping manures. Moisture being a principal agent in all processes of decomposition, renders a certain quantity of rain, &c. as necessary as air for accomplishing the proper degree of fermentation.

When it is intended, therefore, to form a proper and efficient dung yard, or dung yard and pit, it should, according to Loudon's Agriculture, be placed, in almost every case, in the centre of the main yard, with a pavement or caseway, carried round the yard, next to the houses or buildings, of about nine or fifteen feet in width, according to the scale of the

whole; the remaining part of the yard should be enclosed with a wall, or may remain quite open. From this space the earth should be excavated so as to form a hollow, deepest at the centre; and from the lowest part of this hollow should be conducted a drain to a reservoir for liquid manure. The bottom of this excavation ought to be rendered hard to resist the impression of cart wheels, and make it impervious to moisture to prevent absorption. This, in our opinion, is as eligible a situation for every purpose as probably can be adopted; it will only be necessary to have some drains to carry off the rain water, and prevent a superfluity from mixing with the dung and diluting its drainings, which should invariably be thrown back on the manure heap as it drains off. The proper state in which manure ought to be decomposed when applied to the soil, has long been a matter of dispute. We admit animal matters and dungs highly putrescent are powerfully, but transiently beneficial; from this cause, gardeners prefer thoroughly decayed stable manure; but the opinions of our first rate chemists are decidedly at variance with this practice, and the farmer should remember that the properties of manures most essential to the growth of plants are carbonic acid and ammonia, and that the more the manures are decomposed, the greater portion of those gases have escaped, and the enriching qualities of the dung very much exhausted.

Particular attention should be paid to the rapidity of decomposition which takes place in the manure heap, and this must be regulated according to the period when the material may be wanted for use, by turning frequently for accelerating fermentation, and by spreading it about for retarding. As respects the test of its fitness for use, a good criterion is when it has got to that degree of tenderness, that the litters parts will easily separate when a dung fork is inserted in the heap, and a fork full taken up.

(From the Genesee Farmer.)

ON THE IMPORTANCE OF DRAINING WET LANDS AS CONNECTED WITH AGRICULTURAL IMPROVEMENTS.

There are but few points or operations connected with agricultural pursuits, that deserve more attention from the practical farmer than properly draining of watery or moist lands.—The benefits attending, and derived from the practice of draining, require only to be known to be duly appreciated. The immense quantity of first rate lands which we have seen during the last six months, in, literally speaking, a sterile state, might, by expending a small portion of capital, be made the most fertile and productive; but it cannot appear strange to any reflecting mind that the practice of draining is so little practiced here, when we take into consideration the short period which has elapsed since but very partial attention was paid to it in Europe.—This did not arise from ignorance of the system—for we have sufficient proof that it has been practiced even before the Christian era. Draining was particularly attended to by the Romans, both surface and under draining. Cato has given very particular directions how to perform the operations. Columella has also given instructions, and Pliny has added his mite of information on this important subject. Yet, strange to say, it was only about the middle of the eighteenth century, that the real merits of draining wet lands became duly appreciated, and its benefits to the agriculturist properly prized. The enterprising spirit which so universally prevails among the farmers of this country, cannot leave us room to doubt that such a beneficial operation will meet with such a fate at their hands. And this season of the year is the best which can be dedicated to such purposes. "Facts are stubborn things," and in order to place this important subject in its true light before even the most fastidious reader, we would beg a re-perusal of the interesting communication of "A Virginian," first published in the American Farmer, Vol. xiii, p. 180, and republished in this paper. We hope it is not ne-

cessary, for the benefit of any of our readers, to enter into the minutiae of properly performing the operation of *draining*; but it may be proper to say, that the successful practice of draining will in a great measure depend on a proper knowledge of the various strata of which the earth's upper surface is composed; (hence, to the farmer, the importance of a thorough knowledge of the geological construction of his possessions) with their relative degrees of porosity and tenacity. Another and very important point is, to keep in view, and properly discriminate, what is generally termed drainage level, and the nature, distribution and depth of the various strata; for on these points much of the effects derived from draining will depend. Having properly ascertained these points, it will then be for the farmer to decide whether his lands require surface or under draining, as these two modes of draining are essentially distinct, and every care must be used in practice not to blend them in the execution. This must be evident to the most superficial observer, when he considers that, if the surface water is allowed to get into the covered drains, the sands and mud which it will carry into these subterraneous channels, will fill them in a very short period, and completely do away with the benefits they were intended to realize.

In the formation of drains, particular care should be given to make them as straight and with as much exactness as possible; and instead of conducting them according to the inclination, they should be taken in a slanting direction, across the field, which will be much more efficacious in removing the wetness than if the drains were carried according to the slope and in cases where the declivities are various, and have different inclinations, the drains should be so formed that they may cross the higher sides of the different slopes in a slanting direction. With these few brief hints we shall close the subject at present, but will recur to it frequently, as we consider it of so much importance that it cannot be too often brought before the agricultural community. †

(From the Genesee Farmer.)

ON RAISING CLOVER SEED.

In compliance with a request of the Directors of the Wheatland Agricultural Society, requesting my views of the expense and profit of raising clover seed, &c. I submit the following:

This being a subject with which you are all more or less acquainted, I therefore do not expect to be able to advance any thing new, or particularly interesting to you. The immense importance of clover, taken in connection with plaster, as an ameliorating crop, no less than its value as pasturage and meadow, opens a vast field for inquiry and experiment, upon which much has been already said, and upon which there is yet room for much more. As it regards the profits of the cultivation of the different varieties of clover for raising seed, I must confess that my experience is somewhat limited, having never cultivated but the large variety of red clover. I have so far given the preference to this kind, in consideration of its increased value as an ameliorating crop; and when sowed sufficiently thick, I think it inferior to none either for pasture or meadow. But the small varieties, merely for raising seed, so far as I have been able to judge, are decidedly preferable to the large, for the following reasons, viz: 1. Being more sure to seed well, the straw being so small that the seed does not blast by its lodging and rotting on the ground. 2. Being more early, the seed crop may be obtained as a second crop after mowing or late pasturing, and I am not aware that there is yet any difference in the price of seed in market. Although I have uniformly been in the habit of raising my own seed, yet I have never until last year kept any account of the quantity of seed that is produced to the acre, feeling myself satisfied that, at the expense of a few days' work, I obtained seed enough for my own use, and generally

have more or less to dispose of. In 1831, I had a field of twenty-seven acres that had been under wheat the previous year, and had been seeded with the large red clover in the previous spring. I intended to have let the clover attain a good growth, and to have ploughed it in for another crop of wheat. I commenced ploughing it about the middle of June, and, after having ploughed one half of the piece, the clover had begun to lodge, and the ground being very hard, I was obliged to quit it as the ploughs choked incessantly. I then turned off my stock, and concluded to save the remainder for seed when it got sufficiently ripe, which was pretty late. I commenced mowing it, and endeavored to leave as much of the straw on the ground as possible, even at the expense of losing considerable seed. As I anticipated cleaning the seed, I let it lay in the swath for a considerable time, in order to have it thresh easier. I raked up in the morning as much as we could thresh in the afternoon, when it had got quite dry. Two men and two horses threshed it as fast as a man and boy could draw it out of the field, which would be about one acre in an afternoon. I continued to work it in this way until I had threshed five acres. The time for sowing wheat having arrived, and not being aware of the value of the seed, I let it lay on the ground until a succession of wet weather had sprouted it, and it was finally lost. Upon the five acres, I had 900 bushels of chaff, which would be 180 bushels to the acre. Twenty-five bushels, which was carried to the clover machine for an experiment, yielded 45 lbs. of clean seed.

RESULT OF CLEANING SEED.

Expense—say 8 lbs. of seed per acre and sowing, seed at 15 cts. per lb.	- - -	\$ 1 50
Mowing and raking per acre	- - -	2 00
Drawing and threshing per acre	- - -	2 50
The expense of cleaning I cannot exactly ascertain; the machine, when I cleaned mine, not being in good repair; I however easily cleaned two bushels per day—say drawing to mill and cleaning, exclusive of the use of machine, per acre		
	- - -	4 00

Expense, \$10 00

Produce—According to the above experiment of 45 lbs. to 25 bushels of chaff at 180 bushels per acre, there would be 5 bushels 23 lbs. per acre	- - -	\$48 45
I have made the estimate at \$9 per bushel, being the price at which I readily sold what seed I cleaned.		
	Balance,	38 45

RESULT IN CHAFF.

Expense—6 bushels of chaff and sowing, per acre	- - -	\$1 00
Mowing and raking per acre	- - -	2 00
Drawing and threshing	- - -	2 50
		\$5 50
Produce—180 bushels of chaff per acre, at 12½ cts. per bushel, being the customary price of seed in the chaff	- - -	22 50

Balance, \$17 00

Leaving a balance in favor of cleaning, of	- - -	21 45
Although the above are the prices at which I sold my clover seed, yet I am aware that the clean seed is estimated higher than the usual price of the article in market. I find the price quoted in the New York price current, for some time past, is \$6 50, although it is generally worth more here. At this price, the produce of an acre amounts to		
Deduct expense of cleaning	- - -	10 00
	Balance,	\$25 53
Net proceeds per acre, by selling in chaff, after deducting expense	- - -	17 00
Leaving still a balance in favor of cleaning, of	- - -	\$8 53

In the above estimate, I have not taken any notice of the value of the feed in the fall and in the spring, say until the 10th of June, together with the benefit accruing to the land by the root's stubble, yet I consider those benefits more than an equivalent to the whole expense of harvesting the seed. It will be well to notice, however, that when a crop, such as the above, is suffered to go to seed, that the clover in a great measure dies out, and never flourishes well after. Such, at least has been my experience: the crop also comes off too late for following with wheat the same season—but it will be in good order for corn the succeeding spring, or for a summer fallow.

DAVID McVEAN.

I would further remark, that I consider last season to have been particularly favorable for the cultivation of seed clover. This year I saved five acres precisely under the same circumstances of last year, except that it was not fed so late, which I think was no injury to it; it proved an utter failure as far as it regards the seed part: this, however, rarely happens. I would also remark that, although I mentioned the feeding of last year's crop, that it had little or no effect in retarding the growth of it, except in beating paths through it, the growth being rapid and luxuriant.

(From the New England Farmer.)

HOW TO RAISE THREE CROPS FROM ONE PLOUGHING, VIZ: 1ST, TURNIPS—2D, RYE—3D, HAY.

Bridgeport, Conn. Nov. 22.

The 31st of July, I turned over the sward of a piece of meadow which had been mowed the beginning of the month, because the hay was foul, owing to bad grass seed; rolled it down, and scratched the furrows lengthwise with a brush, in order to fill up the seams and smother the grass, which it did pretty effectually. On this acre I carted twenty-five horse loads of fine dung, consisting of the coarse yard dung which was not fit for the field in April, having been stacked since that time, strengthened however by about a thousand white fish bedded in it in June. This was spread on the inverted sward, and mixed with the loam with an iron tooth harrow, lengthwise of the furrow, without upsetting it. On the 7th of August we sowed the turnips with a sprinkling of twenty-five bushels of ashes; they were hoed out on the 27th and 28th, after sowing on the same the usual quantity of rye and grass seed. I sowed a second half acre, prepared in a similar way, adjoining the same, on the 18th; and when the tops were the size of a dollar, we sowed on the rye and grass seed as before. But these did not come up as regular as the first; and instead of hoeing them out, I had an iron tooth harrow run through to scratch in the seed, and some of the turnips where they were thick were thinned out, but where they were thin it pulled none up. They have grown so fast that I commenced pulling the largest the 15th of last month, many of which would not go into a man's hat; and even now, the last of which I am getting in to-day, will not sell on account of their size. I have gathered upwards of two hundred and eighty bushels, and their size would have warranted three or four hundred on the acre, had they come up equal, and the rye and grass now left to itself looks well.

I make this communication, not having heard or read of the mode, though I had tried in once before, in which the rye and grass succeeded very well, but there was a partial failure in the turnips for want of a higher dressing. I shall, if necessary, give a further communication of the result next year. On the remaining three acres of the four, of the same field, I sowed wheat with grass seed, tilled the same way, which looks well. I have already fed it down once.

N. B. The wagon (single) horse loads of dung are about equal in bulk to twenty-five bushels of ears of corn. I put one hundred on the four acres. There has been actually three hundred bushels taken from the acre, and I shall pull many more small ones, left in the field, perhaps two cart-loads. B.

(From the New England Farmer.)

PROFIT AND EXPENSES OF FARMING, &c.

The profit of farming greatly depends on the economical management of working cattle, with the implements immediately connected with them. An account should be opened for teams, and charged with the cost of the horses and working cattle; also the wagons, carts, ploughs, and other instruments connected with them; likewise shoeing, and the grain, roots, hay, &c. consumed by them; and at the end of the year allowing a proper per centage, or premium, for the risk of their lives, the balance may be struck. Perhaps less than five per cent. which seems to be the usual premium, would cover this risk on all kinds of live stock, if a full supply of nutritive matter be provided for them, and proper care be taken of them. A sum equal to such depreciation of their value as may arise either from age or accident, should also be charged: likewise the annual wear and tear of carts, ploughs, and other instruments connected with the use of the teams, together with an average interest on the account, which being previously credited with the number of days, the horses and oxen may have happened to work during the year, will determine the cost of a day's work done by one or more of them. The farmer may be assured that unless no more working cattle be kept than are absolutely necessary, and great economy be practiced in the management of them, and the implements connected with them, the price of a day's work done by one or more of the horses or oxen will so far exceed creditability with those who have not investigated this important subject, that I will omit making the probable estimate, lest it might be supposed that it was not founded on facts that actually exist when the genuine principles of rural economy are not attended to.

An account similar to that for the horses and working cattle, will determine the expense and cost of the animals reared or bought for sale. The account of teams for the ensuing year will of course be charged with the present actual value of the horses and oxen, together with the present actual value of the implements connected with them.

The expense of each crop will be determined by charging it with the cost of cultivation, &c. Also an average interest on the capital employed in it, together with a rent for the ground, equal to an annual interest, on the sum it cost per acre: this should be estimated by adding to the first cost of farm, the cost of the necessary improvements made to place the buildings, fences, &c. in a proper condition for farming. But after the farm has been put into proper order, an account should be opened for the general expenses of it, such as keeping the buildings, fences, &c. in order, or such other charges as cannot be readily placed to the debt of any particular crop, &c. and after charging an annual average on this account, the balance should be carried to the account of profit and loss, at the end of the year. The whole of the grass grounds, for any one year, will require but one account, be the fields many or few. An account should always be opened for such implements of husbandry as are not connected with the teams, and their separate costs and repairs charged to it; also an annual average interest on the amount; likewise the wear and tear of the implements. After this has been done, and credit given for the actual value of the implements on hand, the balance should be carried to the account of profit and loss.

GREAT POTATO STORY.—We mentioned, a few weeks since, that Levi Lane, Esq. of Hampton Falls, planted one potato last season, which produced 387 potatoes, making two bushels! Now this we thought a pretty good story—but our friend Harriman, of the Haverhill Iris, tells a better. Mr. Geo. French, of Andover, has raised from a single potato, 447, which measured three bushels and one peck. We acknowledge ourselves beat.—*Exeter News Letter.*

(From the Genesee Farmer.)

CULTURE OF MANGOLD WURTZEL.

WHEATLAND AGRICULTURAL SOCIETY.

GENTLEMEN:—Agreeably to your request, I give you my opinion on the mangold wurtzel, and its comparative value with other roots. I consider it to be the cheapest and most valuable succulent which we can raise for fall and winter use, being admirably adapted to feeding cattle, sheep, and swine, and for which cows nothing can surpass them; they suit our climate, and will grow on any soil well manured, but a rich clay loam is the most congenial to a great growth. The quantity they produce per acre, when well cultivated, is almost incredible: and the labor per ton is less than any other forage.

John McVean raised a fine crop this season, which, considering the dryness of the summer, (which was very unfavorable,) cannot be calculated much above an average crop. They were planted in drills, 3½ feet apart; one rod in each row, which was not more than an average, weighed with tops, 145 lbs.

Roots without tops, - - -	116
Weight of tops, - - -	29
Roots and tops per acre, - - -	54 tons.
Roots per acre, - - -	43
Tops, - - -	11

Forty-three tons of roots, which, (to value at \$5 per ton) will be, - - -	\$215 00
Value tops at \$2 per ton, - - -	22 00

Value per acre, \$237 00

Compare the above amount with our best crops of potatoes, and it far exceeds them. (I would here remark that the wurtzel is preferable to potatoes for feeding, pound for pound.) Admit, for comparison, that potatoes should yield 300 bushels per acre, which is nearly double an average crop, (a bushel of potatoes from a bountiful yield will weigh 65 lbs.) which will be 93 tons, which is less than one-fourth the weight of the beets without tops.

Value potatoes at 25 cts. per bushel, - - -	\$75 00
Value beet roots at the same, - - -	\$330 75
“ “ tops at 4 - - -	21 25

\$352 00

(From the Genesee Farmer.)

CHESS.

Mr. Editor: Buffalo Nursery, Nov. 20, 1832.

That chess will not only vegetate, but produce abundantly, I can testify. In the summer of 1826, a few log heaps were set on fire in my meadow, originally very low, wet land. It being a time of extreme drought, the soil, which was composed principally of vegetable mold, was burned to the depth of from one to two feet. Early in October following, I had two acres of this land ploughed and sowed with two bushels of chess, procured from the screenings of a flouring mill. On the setting in of winter, but a small portion of the seed had appeared to vegetate, and I began to suspect that what some of my neighbors had often said in regard to it was true, viz: “that chess would not grow.” However, in the spring it put forth rapidly; and by the 10th of July, it was from four to five feet high. It was mowed soon after, and before the kernel became hard, and produced at least two tons to the acre of hay, not much inferior in quality to our common herdgrass. But a very slight sprinkling of chess appeared on the land the next season.

B. H.

NONE OF YOUR “SMALL POTATOES.”—We have been presented with a Sweet Potato, raised by Mr. M. Chisholm, measuring fifteen inches and a half in circumference, and weighing four pounds and a half. He produced many others equally large. They grew on fresh ground, but without any extra cultivation.

[Southern Planter.

HORTICULTURE.

“THE AMERICAN FLOWER GARDEN DIRECTORY,” BY HIBBERT & BUIST, *Exotic Nurserymen and Florists, Philadelphia.*

A work bearing the above title has recently been issued from the press in Philadelphia, and is almost silently and unaided finding its way to the good opinion of the public. As its title page explains, it contains practical directions for the culture of plants in the hot-house, green house, flower garden, and rooms and parlors: It gives a copious description of the plants most desirable in each, the nature of the soil and situation best adapted to their growth, the proper seasons for transplanting, &c. Besides these, the work contains very judicious instructions for erecting hot-houses, green-houses, and for laying out flower gardens; as also a *table of soils*, most congenial to the several plants enumerated in the book. Such a work, it will be admitted, has long been wanted by the amateur growers of flowers, for whose benefit it is especially designed. The directions are at once simple and lucid, and convey to the reader impressions which cannot fail to be useful when he comes to reduce them to practice. Written by practical floriculturists, the instructions are dressed in such language as is best suited for teaching the art of which they treat. The plan of the work is most happily adapted to supply the wants of the inexperienced, being arranged as a *monthly calendar*, and the business of each particular month successively pointed out; thus serving the double purpose of designating the time and the manner when the several operations of the year are to be performed. To render this part of their work still more useful, Messrs. Hibbert & Buist have prepared a table of contents, in the calendar form. This is prefixed to it, and there are annexed to it a very ample catalogue of the plants described in it, alphabetically arranged, with their *Linnean* and *English* names in opposite columns; lists of *HARDY SHRUBS*, of the *Animals* that may be sown on a hot bed; of *Hardy Annuals*; and of *HARDY BIENNIALS*, as also the *Table of Soils*, to which I have before alluded. The latter is accompanied by remarks on the nature of soils used therein.

It is not the purpose of this brief notice to review the work minutely, but merely by a general notice of its contents and plan to awaken a proper sense of inquiry to its merits. Confined, as it is, to the business of *floriculture*, it embraces only a branch of horticulture, but that branch, it will be conceded, is, if not the most useful, the most pleasing and exciting; for while the multiplication of the means of human subsistence manifests a laudable desire in a people to emerge from a state of barbarism, so must the scientific culture of flowers be viewed as an evidence of refinement, alike indicative of virtue, intelligence and good taste, and as such should be esteemed by all who desire to see the elegancies of life advancing in an equal ratio with its comforts.

To give the reader a faint idea of the plan of the work, I shall copy a few of the notices of the collection of roses, taking them indiscriminately, but reserving the numbering of the book.

CHINA ROSES.

No. 5. *Rosa belle Chinese*, is a beautiful French rose, and blooms in great abundance; flowers large and double, color when first expanded pink, and changes to crimson, making a striking appearance, and greatly admired.

No. 8. *Rosa odorato*, or Tea rose, celebrated in this country for its fragrance being similar to fine Hyson tea. It justly deserves the preference of all the China roses, for the delicacy of its flavor. Its flowers are a cream colored blush, the petals round and full, forming a very large rose; when full blown it is pendulous. It will withstand the winter of the middle states with a little protection.

No. 12. *Rosa Bengal*, or yellow tea, is a very free flowerer, the shape of the flower like No. 8; petals large and gracefully set, having a peculiar scent or flavor, and of sulphur color.

No. 22. *Rosa floribunda* *multiflex*. This rose is very correctly named. The whole is covered with immense clusters of various colored flowers, changing from pink to dark crimson; the flowers double and greatly admired.

Having copied a few of Messrs. H. & B's descriptions of their collections of the China rose, I shall transcribe a few more of those of their *CLIMBER* roses and thus give the reader an imperfect insight into the manner in which the work is executed.

*No. 1. *Rosa Chymneyana*. This celebrated rose has a situation in almost every garden in our city, and forms a great ornament, flowering very profusely in immense clusters, from May to November. Many of these having more than thirty buds upon them of a light pink color; it is sometimes called 'pink cluster.' It is of rapid growth, and does well for covering arbors, fences, or any unsightly object, &c."

*No. 2. *Rosa red Noisettia*, or what we consider more properly *scarlet cluster*. It is very distinct from any other of the Noisettias in habit. It is an excellent variety, and blooms abundantly; of a scarlet color, forming a fine contrast, &c."

These are among the ever blooming roses, being in flower from May till vegetation is arrested by the frost of fall, and I have selected them in order that I may be able to convey some notion of the utility of the work. In addition to the sensible instructions for the treatment, in the culture and growth of the various flowers, plants, herbs and trees, which of themselves render this book so acceptable to the reader, each order, class, and variety is respectively described with so much precision as to give a clear idea of its nature and beauty. This to the distant lover of flowers and plants, is especially useful, as it enables him, understandingly, to order such as he may desire. In this respect, "*The American Flower Garden Directory*" will prove a valuable acquisition to the library of every gentleman or lady, who aspires to be informed correctly upon a subject of growing importance in every polite circle in our country.

Having early possessed myself of a copy of this work, I am desirous that its merits may be generally known, believing that its intrinsic worth will commend it to the favorable consideration of every reader.

A LOVER OF FLOWERS.

(From Stewart's Planter's Guide.)

TAKING UP AND TRANSPORTING TREES INTENDED FOR TRANSPLANTING.

If there be any one thing more than another in the removal of trees that places the superiority of the preservative system in a striking point of view, it is the management of the roots. Few planters in the taking up of trees, make much account of roots, provided that a large mass or ball of earth only adhere to them. Marshall, one of the most judicious writers who has treated the subject, in giving directions on this point, says, that the length of the roots, properly speaking, should not be less than the fourth part of the whole height of the tree; although probably for the want of the means of extricating them from the soil, he did not contemplate the possibility of applying the rule to trees of any magnitude. Had he been better acquainted with vegetable physiology, he would have seen that by the law of nature, roots and branches must, in every case, be relative and correlative, and that the standard of judging with respect to roots is not the height of the plant, but the actual length of the side branches. If we mean that our subjects should fully possess the protecting properties, in respect to those important conservative organs, they must possess them relatively in such proportions, as nature confers on all trees, which are found to thrive in open exposures.

Roots spread themselves in the ground in a way

nearly analogous to that in which branches spread themselves in the air, but with a far greater multiplicity of ramification. From the principal root proceed the buds, that give rise to the primary rootlets; and these again give off finer ramifications, which are the true absorbents of the root. To take up such minute and diminutive shoots on the preservative principle, in any thing like an entire state, is obviously impossible, with the arboricultural implements now generally in use. Hence it became necessary to have something more effective; and the tree-picker was some years since invented for this purpose, and is now used in Scotland by many persons, who have witnessed its extraordinary utility in my practice. This implement is of very simple structure, resembling the pick used by miners; but with only one point or prong, which forms an angle somewhat more acute with the handle than the miner's pick. The head, which is of iron, and fifteen inches long in the prong, is made extremely light, as also the wooden handle. The length of the latter is two feet and a half, the entire implement weighing not more than about four and a half pounds. In fact, it can scarcely be made too light for the purpose in question.

Trees which have been cut round are more easily taken up than those that have never been so prepared. The trench made during this operation serves as a sure guide to show the point to which the fibrous elongation has extended; whereas in subjects which have undergone no such preparation, the roots must be judged of from other and sometimes more uncertain circumstances. Every experienced workman is aware in examining a tree that has never been prepared for the purpose of taking it up, that in any tolerable rooting-ground he will find the points of the roots, if not mechanically prevented, running out to the full extent of the branches, and sometimes still farther out. Hence, he should begin cautiously to try with the spade or picker, in order to discover the extreme points of the rootlets. Whether the roots he may lay bare belong to the plant, or to some other tree of the same species, he will at a glance perceive from what the workmen call "the feathering," that is the portion of the capillary rootlets upon the primary rootlets and branches which are always found pointing outwards from the body of the tree.

Having ascertained where the extremities lie, the next step to be taken is to open a trench two or two and a half feet wide, and out down to the subsoil, or deeper should the roots have penetrated so far. The bank is then to be undermined, in which the roots seem to lie, to the extent of eight or ten inches, in order to facilitate the operation of the picker. Two workmen are next to extricate or scratch up the roots, while one is sufficient to throw out the mold, which in consequence falls down into the trench, and thus the workmen are distributed three and three together, according to the number employed, over the whole extent of the excavation. As every effort must be made to preserve the minutest fibres, and capillary roots entire, the difference between an experienced and an inexperienced workman is very striking in an operation of so much nicety; and the surprising dexterity which some men of ingenuity and attention acquire in this department, is as valuable to the employer, as it is beautiful and interesting to the spectator who examines it. The main thing which the pickman has here to study, is never to strike across the roots, but as much as possible in the line of their elongation, always standing in the right line of divergence from the tree as a centre; that is, in such a line or lines, as the rays of the sun are represented to describe, in emanating from that luminous body. In striking the picker into the ground, which must sometimes be done pretty deeply, there is a certain dexterous stroke, more easily understood than described, which a superior workman knows how to give with the implement; and that, when properly applied, will more efficaciously and speedily discover and disengage the various bearings and ramifications of the root than any other method.

It is no easy matter, even in the freest soils, so to disengage the fibrous and capillary roots of trees, as not to lacerate or disarrange a considerable number of them, and yet perform the work with any tolerable despatch. But it is the process of all others which will least bear to be hurried. There are some departments of human labor, in which despatch and economy are nearly allied, and almost convertible terms, and where every one of course will study to promote the former as far as lies in his power. But in the one in question, the greatest deliberation, or at least the greatest caution is the truest saving that can be made.

(From the Genesee Farmer.)

PLANTS.

Grantsfield, 11 mo. 17, 1832.

Last spring I sowed some seeds of *Moluccella laevis* which grew plentifully; but very little care was taken in thinning out the plants, so that only a part of them have blossomed. After our late severe frosts, I observed that the green leaves of the latter kind were hanging lifeless on the stalks, while such as had not come into flower, appeared to have suffered no damage.

It will be agreeably to the opinions of physiologists, to say that the vital energy of the former plants had become greatly reduced by their flowering; and were too feeble to resist so low a temperature. Results very similar to this, occur in transplanting certain (hardy) shrubs from milder climates in autumn. We take them up, and it must rarely happen, when removed many miles, that they do not suffer some injury in their exceedingly tender fibrous roots through which they derive nourishment; they are enfeebled like my plants that had flowered, and are subsequently killed to the ground by a winter not severer than those which they may afterwards perfectly resist when their roots shall have taken full possession of the soil. As an instance, I would refer to the case of my English alder, none of which survived above the surface; and yet after it became established, it withstood the last severe winter without the slightest injury.

Now to apply this doctrine: shelter such newly transplanted shrubs in some manner, either by bending them down and covering with evergreens, earth, sods, moss or dried leaves;—or if erect, by crowding round them the branches of evergreens, which should be secured by tying. This labor will be necessarily in proportion to the damage that has been sustained by their fibrous roots,—as a small shrub of this description, carefully removed from one part of a garden to another part, will need no such protection.

As a general rule, evergreens are more delicate than deciduous shrubs, when both are natives of the same district. This appears to be owing to the sensibility of the leaves. Evergreens, even when transplanted from the adjacent woods to the open ground in autumn, frequently perish; and this may be ascribed to two causes: It is difficult to remove shrubs or small trees from the woods without cutting or breaking many of the roots; and they are commonly removed from a sheltered to an exposed situation. It should therefore be the business of the cultivator to compensate for such deficiencies.

D. T.

FLORAL BEAUTY OF THE PRAIRIES.—In these regions of natural beauty remote from civilization, the exhausted spirits of the weary pedestrian are enlivened and fatigue is allayed, as he beholds the unrivalled charms of these vast prairies in their successive seasons of flowering. In May and June they are robed in flowers of white and pale yellow; in July and August, in those of sky blue and red; and in September and October, in others of deep blue and brown. Flora has here her paradise of innocence and beauty, and vegetable and animal life know nothing of the tyranny of man. He destroys vegetables and animals, to produce others in their stead, and thus maintains a constant warfare with animated nature.

RURAL ECONOMY.

WORCESTER CATTLE SHOW.

MILCH COWS AND FAT CATTLE.

Committee:—Ira Barton of Oxford, *Chairman*. Daniel Bacon of Barre, John Temple of West Boylston, Lovett Peters of Westboro', Luther Burnett, Jr. of Worcester.

The committee on milch cows and fat cattle, report, that they found in the pens six fat oxen for premium; one owned by Israel Putnam of Sutton, aged 7 years—weight 2537 pounds.

A pair owned by Wm. Eager of Northboro', aged 6 years—weight 2150 and 2025.

One by John Boyd of Shrewsbury, aged 7 years—weight 2000.

One by Rejocice Newton of Worcester, aged 2 years; weight 1875.

One by Moses G. Cheever of Princetown, aged 5 years—weight 2125.

The ox belonging to Mr. Putnam was altogether a fine animal, and considering his age, weight and keeping, the committee think the owner entitled to the first premium of \$20.

The pair owned by Mr. Eager were mostly grass fed; and considering that fact, the committee regarded them as very fine oxen, and recommend that the second premium of \$15 be awarded to the owner for his red ox.

The third premium of \$10 your committee think should be awarded to Mr. Cheever for his fine grass fed red ox.

The oxen of Mr. Newton, and Mr. Boyd, were fine animals, but the committee can recommend for them no premium to owners, excepting the honorable meed of being good husbandmen.

The committee found upon the ground fifteen milch cows. Five of them, belonging to Charles Preston of Charlton, Levi Lincoln, George Moor, Silas Baim, Jonathan Gleason of Worcester, were entered for exhibition only, and the committee cheerfully awarded them the thanks of the society for the interest which they have thus gratuitously given to the show.

Of the ten milch cows offered for premium, the committee are sorry to state, that there were five unaccompanied with the certificates of the product of milk and butter, absolutely required by the rules prescribed by the trustees; and in awarding the premiums the committee were obliged to lay them out of the case. These were fine animals and under different circumstances would have had strong claims on the bounty of the society: they belonged to Chester Morse of Southbridge, Elisha Flagg, Willard Brown, Daniel Goulding of Worcester, and Samuel Daman of Holden.

The cows accompanied with certificates satisfactorily correct, were those of Thomas B. Eaton, Nathaniel Stowell and Joel Marble, Jonathan Knight, Ephraim Child of Worcester, Wm. Eager of Northborough.

For the best milch cow not less than four years old, and from a stock of not less than five cows, the committee recommend the society's first premium of \$15, to be awarded to Mr. Eager, for his red cow, 1-8 Durham breed.

The second premium of \$10 to Mr. Eaton.

The third premium of \$8 to Messrs. Stowell and Marble.

The fourth premium of \$6 to Mr. Knight.

The committee beg leave to commend to the special and favorable regard of the society, the interests of the dairy and the dairyman. They need not say that good butter and cheese are necessary for good living—they are rather necessary in order to live at all. Come what may, we must have these articles—and that too fresh from the dairy. We may import almost every thing, but save us from imported butter and cheese. The dairy too, is worthy of the

first consideration, as a source of unailing income to the farmer. Your committee believe that there is no class of agriculturists in the county, whose thrift is so marked and sure as that of the dairyman of Barre, New Braintree, Westboro', and other grazing towns. Their farms are a source of income of two, four, and six hundred dollars a year. And nothing but a policy which would depopulate the commonwealth, can deprive them of their well deserved living.

IRA BARTON,
LOVETT PETERS,
DANIEL BACON.

(From London's Gardener's Magazine.)

ACCOUNT OF THE OTAHEITEAN METHOD OF PREPARING THE ARROW-ROOT.

Lima, Dec. 23, 1831.

Sir,—By this I trust you have received my letter of August last, which will inform you of my having crossed the Cordillera of the Andes. Since then, I have learned from Dr. Hooker that he has published a description of the route by Mr. Cruikshanks; I shall therefore reserve what I intended to send you on that subject, till I receive Dr. Hooker's publication. In the mean time, I send you an account of the Otaheitean method of preparing the arrow-root of commerce, as I witnessed it performed in that island; hoping that it may be the means of attracting the attention of some persons in Great Britain connected with those islands, and be a means of establishing a more direct intercourse with the inhabitants.

The root (*Tacca pinnatifida*, *Lin. Ency. of Plants*, p. 256, fig. 4321, the pea of the natives) grows in the greatest abundance in all the islands which we visited, viz. Otaheite, Eimeo, Huahine, Raiatea, and Otahe. Its favorite situation is on the sides and ridges of the hills which rise directly from the sea, and which are generally covered with a coarse grass, on a red sandy loam. The root is round, white, smooth, full of eyes like a potato, and from 2 to 3 inches in diameter. The flower-stem rises directly from the root, simple; from 2 to 4 feet in height, as thick as a man's finger, bearing its flowers in a loose simple umbel on the summit; and when large and full blown, it presents a beautiful and delicate appearance. The leaf is large, tri-pinnatifid, segments acute, of a rich shining green: it is subject to great variation in the size of the segments, some leaves being much more cut, and having the segments narrower, than others. When a sufficient quantity of the roots is collected, they are taken to a running stream, or to the sea-beach, and washed; the outer skin is carefully scraped off at the same time with a shell, and those who are particular in the preparation scrape out even the eyes. The root is then reduced to a pulp, by rubbing it up and down a kind of rasp, made as follows: a piece of board about 3 inches wide and 12 feet long is procured, upon which some coarse twine, made of the fibres of the cocoa nut husk, is tightly and regularly wound, and which affords an admirable substitute for a coarse rasp. The pulp, when prepared, is washed first with salt or sea water, through a sieve made of the fibrous web which protects the young frond of the cocoa nut palm; and the starch, or arrow root, being carried through with the water, is received in a wooden trough made like the small canoes used by the natives. The starch is allowed to settle for a few days; the water is then strained off, or more properly poured off, and the sediment re-washed with fresh or river water. This washing is repeated three times in spring water; after which the deposit is made into balls of about 7 or 8 inches in diameter, and in this state dried in the sun for twelve or twenty-four hours. The balls are then broken, and the powder spread for some days in the sun to dry, after which it is carefully wrapped in *tapa* (the native cloth), and put into baskets, and hung up in the houses. The natural indolence of the people is so great, and their avarice such, that but few of them will give the arrow-root sufficient time to dry, if they have an op-

portunity of parting with it—which I suspect was the case with that sent to England some few years back by the missionaries. So abundant is the root, that several tons might be prepared annually by proper management; as it is, there is a considerable quantity prepared: it being not only eaten by the natives and strangers on the island, but also by the crews of the vessels that touch there.

At present, when the roots are taken up, the only precaution used to secure a crop the following year is to throw the smaller roots back into the holes from which they were taken, and to leave them to chance. I have no doubt that, with proper care and cultivation, any quantity might be produced. When we visited the island, we purchased the prepared arrow-root, at 2d. per lb. and a missionary there informed us, that he would engage to procure any given quantity at three-fourths that sum per pound, which is, I believe, much less than it can be purchased at, either in the East or the West Indies. Its quality is excellent—I should say equal to that of the East Indies, and far superior to that of Chile, with which I have, since my return, had an opportunity of comparing it. Though there are at present many English and North Americans upon the island, I am sorry to say that but few of them have set the natives the example of industry that might have been expected; even the missionaries themselves are still backward in that respect.

As I am likely to remain some years longer in Peru, I have deferred sending you any remarks on the state of agriculture and horticulture in that country, till I become better acquainted with the manners and customs of the inhabitants; but as I am now in possession of a property of about fifty acres, which I am working, and in which I have all the fruits common to the country, I hope to be able shortly to furnish you with something novel and interesting respecting it.

I am, sir, &c. ANDREW MATHEWS.

(From the Genesee Farmer.)

BEES.

Sweden, Nov. 1832.

MR. EDITOR: I noticed in the Genesee Farmer, a communication [copied into this paper, p. 262, of the current volume] respecting the bee-moth, which I think incorrect. As the raising of bees is of much importance, I think that any information resulting from experience will be acceptable, to your readers, and therefore I will give my method of treatment.

Until experience had taught me better, I allowed my hives to be placed upon a board, as was the practice with my neighbors. By this treatment I lost several swarms, and others received much injury; for, unless the hive is nicely fitted to the board, the moth will deposit her eggs under the edge of the hive, and when they hatch, the worms are so very small that they will crawl into the hive during the night time, unperceived by the bees; and after they have located themselves, and spun a few webs over their habitation, they are seldom driven from it by the original proprietors.

For five or six years past, my practice has been to support my hives upon small blocks or nails driven into the bottom of the hive, which shall prevent its coming within half an inch of the bottom board. The result of this practice has been favorable, for I have not had a swarm injured in the least by the moth since I adopted it. I suspect that the hive alluded to by Mr. ANDREWS was one in which the egg of the moth had been deposited previous to its being elevated. It is to be hoped that others who have paid attention to bees will give the results of their different experiments, whether successful or unsuccessful, that the most profitable method may be adopted. W.

The vineyards of Mr. A. Geiger, of Lexington district, S. C. have produced the present season upwards of 6500 gallons of wine, from the Bland Virginia and Madeira grapes.

THE MARYLAND HORTICULTURAL SOCIETY, for the improvement and encouragement of Gardening and the promotion of Horticultural Science in the State of Maryland, with a view to the accomplishment of those important objects, have determined on having an **EXHIBITION OF PLANTS,** &c. after the manner of other Horticultural Societies. They, therefore, give notice, that they will cause to be held an Exhibition of Plants, Flowers, Fruits, Culinary Vegetables, &c. &c. in the city of Baltimore on the eleventh and twelfth days of the month of June, 1833. Further, as an encouragement, they have resolved to offer three premiums to be awarded to the three most deserving objects exhibited:

The first premium will be a piece of silver plate, of the value of \$12.

The second a piece of silver plate, value \$5.

The third a silver medal, value \$5.

The premiums to be handsomely engraved with the arms of the Society, &c. &c.

For further information on the subject, address, (post paid,) **H. F. DICKEHUT,**

Chairman Committee of Arrangements, Baltimore.

Editors of papers, throughout the State, are requested to give the above a few insertions.

January 4.

Prices Current in New York, December 29,
Beewax, yellow, 18 a 20. *Cotton,* New Orleans, .11 a 13; Upland, .10 1/2 a .12; Alabama, .11 a .12. *Cotton bagging,* Hemp, yd. .13 a .21 1/2; Flax, .18 a .14. *Flax,* American, 7 a 6. *Flaxseed,* 7 bush, clean, — a 13.25; rough, 12.50 a 12.37 1/2. *Flour,* N. York, bbl. 6.00 a 6.12; Canal, 6.18 a 6.43; Balt. How'd st. 6.62 a —; Rhd city mills, 6.75 a —; country, 6.06 a 6.12; Alexandria, 6.37 a 6.50; Fredericks', 6.00 a —; Peters', new, 6.00 a 6.12; Rye flour, 4.18 a 4.25; Indian meal, per bbl. 3.75 a —, per hhd. 17.50 a —. *Grain,* Wheat, North, — a —; Vir. 1.28 a 1.30; Rye, North, .85 a .93; Corn, Yel. North, .80 a .90; Barley, — a 75; Oats, South and North, .45 a 52; Peas, white, dry, 7 bu. 5.00 a —; Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess, 8.25 a 8.75; prime, 5.25 a 5.75; cargo, — a —; Pork, mess, bbl. 13.00 a 14.25, prime, 11.25 a 11.76; Lard, .9 a .11 1/2.

SPLENDID PÆONIES.

Just received and for sale at the American Farmer Office and Seed Store, a few of the **POPPY FLOWERING TREE PÆONY**, (*Pæony arborea pappaveracea*), and of the **TREE PÆONY**, (*Pæony arborea*). To experienced florists it might be needless to say a word about the great beauty of these plants; but the public generally may not be as well informed. A recent publication on horticulture thus describes the tree pæony: "In the gardens of China they cultivate an immense number of varieties of this splendid plant,—some of which are said to be sold as high as a hundred ounces of gold; and in so much esteem it is held by them that it is there called the 'king of flowers.'"—*Prince's Treatise on Horticulture*. Of the poppy flowering pæony the same work thus speaks: "The flowers of this plant are single or semi-double, but being of a pure white color, with a purple centre, they combine a delicacy calculated to excite great admiration; it is also more rare than the tree pæony, and it is but a couple of years since Messrs. Prince paid five guineas for a very small plant." Price of the poppy flowering pæony \$5 each, and of the tree pæony \$2.50 each.

FLOWER SEEDS.

The subscriber has now his assortment of Flower Seeds ready for his customers, and will be happy to receive their orders. A printed list of them is just completed, which will be sent to any person who shall request it by letter (postage paid) or otherwise. These seeds are chiefly the growth of 1832, in the garden of this establishment, and are known to be from very superior flowers. I have several books also on floriculture, which are named in the Flower Seed Catalogue above referred to.

I. I. HITCHCOCK,

American Farmer Office and Seed Store.

RED ANTWERP RASPBERRY BUSHES.

For sale at the American Farmer Office and Seed Store. Price, 12 1/2 cents each; \$1.25 per dozen; or \$8 per hundred.

I. I. HITCHCOCK.

"SHAKER GARDEN SEEDS."

The Subscriber has been appointed by the United Society of Shakers at New Lebanon, N. Y. agent for the sale of their celebrated **GARDEN SEEDS**, which may be obtained from him hereafter, by wholesale or retail. He has this day received direct from the Society, 14 boxes, each comprising an assortment, more or less extensive according to its size. Of these a part are small "Family boxes," containing a quantity suitable for a common garden, with a list of contents annexed. The character of these seeds is too well established to need recommendation. Apply at the American Farmer Office and Seed Store, No. 16, South Calvert-street.

I. I. HITCHCOCK.

MOUBRAY ON POULTRY.

Just received and for sale, at the American Farmer Office and Seed Store, *A Treatise on Breeding, Rearing, and Fattening, all kinds of Poultry, Cows, Swine, and other domestic animals.* By B. Moubray, Esq. Reprinted from the sixth London edition, with such abridgements, and additions, as, it was conceived, would render it best adapted to the soil, climate, and common course of culture, in the United States. By Thomas G. Fessenden, Esq. editor of the New England Farmer.—Price, 75 cents.

STRAW CUTTERS, CORN SHELLERS, &c.

SINCLAIR & MOORE, offer for sale a variety of kinds of Straw Cutters, the Cylindrical of the following sizes and prices, viz. 11 inch box at \$27. 14 inch at \$45. 16 inch at \$55. 20 inch at \$75. The smallest (price \$27) will cut 300 bushels of straw one inch long per day, and is precisely the kind spoken of in the following note, addressed us by the proprietor of the American Farmer:

Baltimore, October 2, 1832.
 John G. Eliot, for whom we bought one of your Straw Cutters last year, writes me thus, under date of Sept. 20, 1832:

"The Cutting Knife answers well. I would not be without it for the price of two."

I have much pleasure in communicating the above, for I think the instrument well deserves the compliment thus bestowed on it. Yours, truly,

SINCLAIR & MOORE, Balt. **I. I. HITCHCOCK.**

The second size has cut, in the vicinity of Baltimore, seven hundred bushels per day, with manual power. The third and fourth are capable of much more, particularly with horse or water power. These machines may now be expected to go into more general use, as they can be furnished at a more moderate price.

Also circular knife self-feeding boxes at \$20. Common Dutch box at \$7.50, and smaller size at \$5.

CORN SHELLERS, with vertical cast iron wheels, very durable and easily kept in order, which shell with great ease and rapidity, price \$20. **CAST STEEL AXES**, with a general assortment of **AGRICULTURAL IMPLEMENTS AND GARDEN SEEDS.**

AGRICULTURAL IMPLEMENT AND SEED STORE.

J. S. EASTMAN, No. 36 west Pratt-st keeps constantly on hand a supply of his Patent Cylindrical Straw Cutters of the various sizes, which he will warrant to cut as much, according to their size, and to be decidedly superior in every respect to any similar machine made in this country.

Also, very superior Rag Cutters, for the use of Paper Mills.

Gideon Davis' Improved Patent Ploughs, of all sizes, with wrought and cast shares, and all kinds of castings for those ploughs by the piece or by the ton, as likewise for horse powers, on as reasonable terms as can be had elsewhere.

Wheat Fans, Corn Shellers, Threshing Machines, Harrows, Cultivators, &c. Likewise superior Cast Steel Axes, Hay and Manure Forks, and Scythe Snaths at wholesale and retail. Shovels, Spades, Hoes, &c. and all repairs done at short notice.

Field and Garden Seeds. Such Grass Seeds as are in market will be kept for sale. My assortment of Garden Seeds is not so extensive as advertised by some, but such as I shall offer for sale may be relied on as genuine. The following I could furnish at wholesale, viz: Superior Early York Cabbage, and Long Scarlet Radish Seeds, and Early France Peas, the latter raised by Richard Cromwell, Esq.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—After a careful inquiry into the state of the market we are unable to discern any important variation in our staple products. Flour, both from wagons and stores, remains the same as last week. A slight advance will be noticed in corn and oats. Corn fed family pork continues to sell at \$5.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; lined red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 25.00.—Virginia, 4.00 a —, Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 203 hds. Md.; 27 hds. Ohio; and 7 hds. Ken.—Total 238 hds.

Floor.—best white wheat family, \$6.75 a 7.25; super Howard-street, 5.62 1/2 a —; city mills, 5.50 a —; city mills extra 5.62 1/2 a —; CORN MEAL bbl. 3.50; — Grain, best red wheat, 1.10 a 1.13; white do. 1.16 a 1.20; — CORN, white, 57 a 58, yellow, 58 a 59; — Rye, 72 a 73; — OATS, 42 a 43; — BEANS, 75 a 80; — PEAS, 65 a 70; — CLOVER-SEED a — TIMOTHY, a — ORCHARD GRASS 2.00 a 2.25; — Tall Meadow Oak Grass 2.00 a 2.50; — Herd's, 75 a 87 1/2; — Lucerne a 37 1/2 lb. — BARLEY, — FLAXSEED 1.50 a 1.62; — COTTON, Va. 10a 12 1/2; — Lou. 12a 14; — Ala. 10a 13; — Tenn. 10a 12 1/2; N. Car. 10a 12 1/2; Upland 10a 13; — WHISKY, hds. 1st p. 32 1/2 a —; in bbls. 32 1/2 a 34; — Wool, Washed, Prime of Saxony Fleeces 45 a 50; American Full Blood, 38 a 42; three quarters do. 35 a 38; half do. 30 a 33; quarter do. 28 a 30; common 25 a 28. Unwashed, Prime or Saxony Fleeces, 25 a 30; American Full Blood, 22 a 25; three quarters do. 20 a 23; half do. 18 a 20; quarter do. 16 a 18; common, 16 a 18. Hemp, Russia, 100 a 210. Cotton, dew-rotted, 6 a 7 lb. water-rotted, 7 a 8; — Feathers, 37 1/2 a 33; Plaster Paris, per ton, — a 5.37 1/2; ground, 1.50 a — bbl. Iron, pig for foundries, per ton 33.00 a —; high pig, per ton 35.00, per ton 28.00 a 30.00; — Bar Sus. per ton, 75.00 a 85.00. — Prime Beef on the foot, 4.50 a 5.50. — Oak wood, 4.00 a 4.50; Hickory, 5.50 a 6.00; Pine, 2.25

CONTENTS OF THIS NUMBER.

Editorial; American Silk; Account of an Agricultural Excursion undertaken during the Spring of 1832, by John D. Legare, Editor of the Southern Agriculturist, concluded.—On the Importance of Manure.—On the Importance of Draining Wet Lands as connected with Agricultural Improvements.—Expense and Profit of Raising Clover Seed.—To raise three Crops from once Ploughing, viz: Turnips, Rye, and Hay.—Farmers should keep an Account of Profit and Loss.—Great Potatoes.—Comparative value of Mangold Murtzel.—Chess.—The American Flower Garden Directory, by Hibbert and Buist, Exotic Nurserymen and Florists, Philadelphia, Notice of.—Taking up and Transporting Trees intended for Transplanting.—Removing Plants.—Floral Beauty of the Prairies.—Report of the Committee on Milk Cows and Eggs.—The Worcester Cattle Show.—Otheitanic Method of Preparing the Arrow Root.—Raising Bees, Bee-moths.—Prices Current of Country Produce in the New York and Baltimore Markets.—Advertisements.

GENERAL

Agricultural and Horticultural Establishment COMPRISING, A Seed and Implement Store, a General Agricultural Agency, and the Office of the AMERICAN FARMER, at No. 16 South Calvert street, Baltimore: in connection with a Stock and Experimental Farm, Garden and Nursery in the vicinity.

As extra number of the Farmer, containing a prospectus of the "Establishment," and a "Catalogue of Seeds," &c. kept for sale, shall be sent GRATIS to any person who shall by mail or otherwise furnish his address for that purpose.

AGENTS FOR THE FARMER.—All postmasters are requested to act as agents for the Farmer, and to require a strict compliance by subscribers with the terms, especially the third item. They are authorised to retain one dollar for each new subscriber, and ten per cent. on all other collections. The list of special agents is published in the Farmer every third week. (Terms next week.)

DIRECTION OF LETTERS.—Address all BUSINESS letters concerning the Farmer, the store, or the agency, to the proprietor, "I. I. Hitchcock, Baltimore, Md."

Printed by J. D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, JANUARY 11, 1833.

MANURE.—Common stable manure is composed of fertilizing salts and vegetable fibre. It is not necessary to particularise the different elements of these salts; for our present purpose it is sufficient to say that they are the food of the plants—in other words to them is owing the richness of the soil which has been manured, and that they are soluble in water, and volatile. For instance, if a quantity of stable manure be placed in a leach, and water passed through it in the manner of obtaining ley from ashes, all of the fertilizing matter of the manure will be dissolved by the water, and pass off with it into the receiver. This ley thrown upon the soil with a watering pot will enrich it just as much as if the manure itself were spread on it. It is true the vegetable fibre of the manure, which is neither more nor less than the woody fibre of the hay, straw, skin of grain, &c. of which the food of the animals was composed, does not beneficially in the soil in two ways: It loosens stiff soils, and by its gradual decomposition adds to all soils a quantity of vegetable matter, but this is comparatively much less important than the fertilizing salts. Sir Humphrey Davy after very careful experiments on this subject, concludes that the fertilizing matter of manure is mostly dissipated by fermentation. He collected the vapor evolved from a mass of fermenting horse dung, condensed it into a liquid, and applied it to a grass plot, and found it to produce all of the fertilizing effects of the manure. Now if the above be a correct view of the nature of stable manure, and for ourselves we have not the slightest doubt of it, as it is the result of our experience, as well as of our reasoning, it is perfectly obvious, that the common practice of allowing stable manure to lie in large heaps to ferment—to rot, as it is commonly called—is very bad economy; much of its valuable properties is lost by evaporation. Of this any person may satisfy himself by standing near a pile of hot stable manure a minute or two—if he smells it he may be sure that a part of its substance is wasting in the air—the peculiar odor thus smelt, is nothing more nor less than the fertilizing salts of the manure flying off.

Therefore, stable manure should be kept in vaults, under barns, or in pits under sheds, or covered with a coat of soil to absorb the salts, or spread and ploughed in before a high degree of fermentation takes place.

We are aware that many suppose it necessary to let the manure rot for the purpose of decomposing the large quantity of straw and other vegetable matter mixed in the manure by "littering" the horses. But they may be assured they lose more by the evaporation of fertilizing salts, than they gain by the vegetable matter obtained from the decomposed straw and other litter.

But the worst mismanagement of manure, and that which is by far the most general, is the exposure of it to washing rains. It is a matter of every day's observation to the writer to see our market gardeners carting out stable manure to the skirts of the city and dropping it on vacant lots—there letting it lie for weeks. We have seen rivulets of black liquid running down the gutters from these piles of manure—bearing off the very matter which the industrious gardener had worked so hard to collect, and paid so much to obtain, and leaving him nothing but the bleached remains. Would any man leave his salt or his sugar exposed to a shower of rain? Why not? Because it would be dissolved, and thus lost! Then why expose his pile of manure to the same casualty? It is of the same nature; and is it not of equal value? Farmers almost universally throw their manure out of the stable, through a convenient window. There it lies in a pile against the side of the stable, till wanted to spread on the ground. Every rain washes

all the salts down the hill, or into the neighboring soil where they are not wanted, being already too rich by previous washings for any thing to grow on them. Now this should not be. There should be a cellar either under the stable, or outside of it under a close shed, into which the manure should be thrown, and into which all the urine should be conducted by proper drains. Thus would all the manure be saved, and thus every farmer would be able to cart out three loads of real manure, for one under the old system.

THE MARYLAND HORTICULTURAL SOCIETY, for the improvement and encouragement of Gardening and the promotion of Horticultural Science in the State of Maryland, with a view to the accomplishment of those important objects, have determined on having an **EXHIBITION OF PLANTS, &c.** after the manner of other Horticultural Societies. They, therefore, give notice, that they will cause to be held an Exhibition of Plants, Flowers, Fruits, Culinary Vegetables, &c. &c. in the city of Baltimore on the eleventh and twelfth days of the month of June, 1833. Further, as an encouragement, they have resolved to offer three premiums, to be awarded to the three most deserving objects exhibited:

The first premium will be a piece of silver plate, of the value of \$12.

The second a piece of silver plate, value \$8.

The third a silver medal, value \$5.

The premiums to be handsomely engraved with the arms of the Society, &c. &c.

For further information on the subject, address, (post paid,) H. F. DICKEHUT,

Chairman Committee of Arrangements, Baltimore.

SCUPPERNONG GRAPES AND WINE.

Brinkleyville, Halifax County, (N. C.) }
Mr. SMITH: Jan. 1st, 1833.

The Scuppernong does not succeed in attempts to propagate it by cuttings. But is easily cultivated by layers as well as by grafting. At different times in the summer, as collateral branches extend themselves, they are buried a few inches beneath the surface of the ground, with the outer end above, and in the fall they are found to have fine roots. Separated from the parent stock, and properly transplanted with one or two eyes above ground, and they will grow and flourish without fail. Of several hundred I planted last year for myself and governor Burton, very few failed, and that few I attributed to the circumstance of planting them too deep or not making a sufficient allowance for the sinking of the ground. Many grew the past season higher than the stakes, or ten or twelve feet. The grapes have begun ripening with me the last of August, or beginning of September, and different sets continued ripening till some time in October. This circumstance presents the query to me how far north this grape would generally ripen? Experience alone can ascertain.

I have been informed by an intelligent gentleman, from the lower part of this state, or the native place of the Scuppernong, that the following is the general method of making the Scuppernong wine. After mashing and pressing the grapes, they strain the juice through two or three woollen blankets, and put it in a clean new cask with one-seventh of brandy, and let stand without further process. But doubtless the best wine of this kind as well as others is made without spirits.

About two years since, I visited capt. Barlingham, near Louisville, (N. C.) having understood he had cultivated the Scuppernong with great success. He showed me twelve vines, extending over a quarter of an acre, suspended on lath or scantling, over frames, supported by posts about eight feet high, from which the year preceding he had made five hundred gallons of wine, (worth as many dollars) besides having abundance of fruit from the same vines, for himself and neighbors. Some barrels he had made with, and some without spirits. One barrel saved without

brandy, made of the first gleanings, took twenty-one pounds of sugar to make the must suspend an egg on its side. But a barrel made of later gleanings took but seven pounds of sugar. His method of gleanings the grapes was simply this. A sheet was suspended underneath and the frame above was shaken with a forked stick, when all the ripe grapes descended—and so repeated the process as others ripened. He made the wine by mashing the grapes by hand or otherwise, putting them in a sack made of cotton bagging and then pressing as for cider. He mentioned he had safely sent the grapes to friends in Washington city, and other distant places, in boxes after they were picked from the vines by hand. But I am becoming tedious and must close. Yours, with great respect and esteem,

SIDNEY WELLER.

FOREIGN MARKETS.

LIVERPOOL, December 1, 1832.

Our cotton market this week, though tolerably steady, has been quiet throughout, and the sales, taken altogether, are moderate. The trade continues to buy sparingly, and though generally holders have not pressed their cottons on the market, 1-8th of a penny per lb. here and there has been conceded to the buyers for the purpose of effecting sales.

The uncertainty attending the affairs of Holland still operates against us; besides which the late accounts from the United States lead us to expect a larger supply of cotton, for the next few weeks, than previously calculated upon.

The entire import of cotton into the ports of the kingdom, since the 1st of January, amount to \$27,500 bales, against \$61,000 received during the same time last year; and of American the supply has been 597,000 against 577,000 bales, the quantity received within the same in 1831. The stock of American cotton in this port is pretty similar in amount to the stock on hand this time last year, and the pieces of Upland range from 61 a 74, against 4-8 a 64, the current prices on the 1st Dec. 1831.

The chief sales making in Uplands and Mobile are from 6-8 a 74; in Orleans from 5-8 a 74; and in Tennessee from 6-8 a 6-8-8. The sales of the week (as returned by the Brokers) were 10,360 bales; 90 S. Island 112 a 142; 4030 Upland 7-8 a 7-5-8, 32 a 74; 1760 Orleans 64 a 82; 1730 Tennessee, &c. 64 a 74; 5000 Pernambuco 84 a 94; 750 Bahia, &c. 74 a 8. It is generally supposed that about 2000 bales more were sold, for which returns were not made.

Of tar, 1000 bbis. have been sold at 12s 6d a 12s 9d, and 4300 bbis. turpentine at 12s a 12s 1d per cwt. Of old New York flaxseed, 1500 bbds. have gone off at 70s a 72s 6d per hhd. Our corn market yesterday was not brisk, but prices tolerably steady. We quote sour flour in bond at 15 a 17s, and sweet for export, 21 a 24s per bbl.

Monday, Dec. 3d.—The sales of cotton, Saturday and to-day, amount to 5500 bags.

Dec. 4th.—At this morning's market an advance of 1d on wheat was established.

Corn Exchange—London, Dec. 4.—There was a good supply of wheat to day, from Kent and Essex, but scarcely any from the Suffolk coast. Early in the morning, a few of the finest runs were taken off by the millers at an advance of 2s per qr. above the quotations of this day's night, in expectation of orders for purchasing for Yorkshire when the frost came in; but no demand of that kind took place, and trade became exceedingly heavy; nor could any further progress be made in sales at any improvement on the terms of last Monday, except for a few superior picked samples, which sold 1s per qr. higher. New foreign wheat is 1s per qr. higher, but did not go off freely at that advance. It is still unsettled whether flour shall or shall not be at an advance of 5s per sack. The actual advance realised is 2s per sack, making the selling price 50s for towm made, instead of the nominal price.

AGRICULTURE.

(From the Southern Agriculturist.)

ON THE CULTURE OF RICE.

Charleston, Oct. 10, 1832.

The queries put to rice planters by your correspondent, "*An Observer*," are both numerous and important; too much so, to be answered as concisely as they have been propounded: he is not disposed to skim lightly over the subject; he is evidently a practical man, and I will, with your permission endeavor to answer the questions in the order they assume in the *Agriculturist*.

1. *Is it not observable on drawing off the water after each flowing of their fields from tide water, that a considerable deposit of mud remains on the surface of the field?*

2. *Whether the mud is not considered fertilizing and advantageous to the field?*

It is unnecessary to prove the fertilizing quality of the mud; it is a truism to which every man residing on a river, must unhesitatingly give his assent, but the reason or rationale of the thing is seldom adverted to. The mud found in our ditches, consists of deposits from the river water, during the flowing of our fields, or of soil washed from the surfaces of the land and the sides of the banks. That from the river water must fertilize the fields on which it is deposited, because it is, in fact, virgin soil. That which is washed from the banks consists of soil, which originally came from the ditches; (when newly cut) it has never been cultivated, and of course contains all the virtue and freshness of new land, with the advantage of being entirely pulverized. This, it may be said, is theory, and must be received with caution; grant it, and I will state a fact worth a dozen such theories. The planters (or some of them whom I know) in the neighborhood of Georgetown, raise their river banks by cutting down the inner river margin, and this dirt thus removed, they replace with the mud thrown from the river ditch in cleaning it. The river margin of course, (if mud improves the soil,) is the richest part of the field, and the fact is so. When they think the average crop a great one, it is common to hear them say, "the body of the field is as good as the river margin."

3. *Whether such additions of mud are not more especially beneficial to rice fields of light vegetable mold, and to those of a sandy nature, by the addition and mixture of loam with such light soils?*

To the third query, I am not prepared to give an unqualified assent. I do not think the addition of mud is more beneficial to light than to clay soils; it improves them both very much. To the light vegetable mold, it adds increased luxuriance, as is exhibited in the growth of blades, depth of color, additional height of stalk, and fullness of ear; while, to the stiff and compact clay, it gives looseness and facility of working, and so much to the length of the ear, as to be perceptible to a practised eye before it is harvested.

4. *Whether they flow their fields occasionally through the winter with the especial object of intercepting and obtaining, as many as possible, of such deposits of mud?*

A few years since, it was not deemed judicious to flow the fields during the winter, especially on those rivers where salts prevail during portions of the year, and if we mistake not, Mr. Myrick forbade it on those plantations which he managed on Cooper river. The reason assigned was, that the land was more or less impregnated with salt, that the water did not destroy it, but only kept it down, and the heat of the summer's sun attracted it to the surface and destroyed the rice. Like many other theories this was plausible and ingenious, but is not supported by facts. The practice is now almost universal to flow the lands, as soon as the stubble can be removed either by burning

or hoeing it off, and the quantity of deposit is very perceptible.

5. *Whether flowing the fields occasionally with brackish water in the winter, will not improve the soil by the slight addition of salt as well as of mud?*

It is difficult to answer the fifth question precisely. Salt is certainly a manure, and I have no doubt that the fertility of some of our best lands (as for instance, those on Cooper river,) results very much from the salt which occasionally reaches to its source and injures its crops. But that it would be advisable to put salt water on the land, with the view of enriching it, is by no means so certain. The late General Thomas Pinckney, (than whom I know no higher authority,) used to say, that salt water was an excellent manure, but that it was difficult to fix the dose. There is more in this remark than appears at first sight. If we could always ascertain how salt the water was, and ought to be, and how long it could be kept on, without injury, then we might with propriety use it, but until these circumstances are all well understood, it would, to say the least of it, be hazardous and might endanger the succeeding crop.

6. *Whether these advantages may not be obtained simply by instructing the trunk-minder to flow the field at every full and new moon, and to draw off the water after one week?*

To the sixth question, I answer, that it is not sufficient to instruct the trunk-minder to flow the fields at the full and new moon, and then to draw off the water at the end of a week; this will not be effectual. The water deposits its sediment in about twenty-four hours, if the weather is calm, and of course at the end of this time, has done all that it can do in that way. The better plan is to change the water every day or two, and this can be done without difficulty. If the door is hoisted entirely up, much of the deposit will be washed out by the rush of water, but if it be raised two or three holes, it will be sufficiently high to dry the field in three tides, unless the squares are disproportioned to the trunk. The holes in the up-rights of the trunk door to which I allude, are usually two or three inches apart, and we are often compelled when the land is very light or in very high tith, to flow our crops in this slow and deliberate manner. If we mean to derive all the advantages from this flowing, which can be obtained, the process should be continued during the whole winter. To this plan it has been (and very fairly too) objected that the cross banks and river banks are very much washed and injured, that high places cannot be levelled, nor new ditches cut, nor old ones cleaned during its continuance. The only reply I can make to this is, that from the middle of February, when we usually dry the land, to the last of March, there is abundant time to accomplish all the work necessary to be done, preparatory to putting the seed into the ground.

7. *Will flowing the fields after harvest effectually sprout and rot all the loose ears and grains of rice that may have fallen, so as to prevent the mixture of red rice?*

No rice planter ought to be ignorant of the advantage, not to say necessity, which exists, of destroying volunteer rice. The difficulty of distinguishing it from the crop rice during the hoeing, the trouble and labor of stripping it, and the great pecuniary loss which results from its admixture with the market rice, all combine to urge upon us the greatest care and attention to this subject. Yet, strange as it may appear, there are some planters who take little heed of volunteer rice, and others who regret its existence, without attempting to eradicate it, until the land becomes so entirely polluted as to set all remedy at defiance; while some few even boast of the length of time during which their people are fed upon this extra crop, as I have heard it termed. I recollect, distinctly, seeing one field thrown out in consequence of volunteer rice occupying the whole land, and another, on the same plantation, from which four bushels to the acre were collected previous to the harvest, and all

this from inattention to the simple precautions requisite to guard against it, which we shall presently detail. For several years, I have not stripped an ear of volunteer rice, except on the sides of the banks where it is out of the reach of water, and where it will necessarily be shelled while the people are carrying it to the barn yard. But to proceed to the remedy. So soon as the rice is removed from a square, it is best to glean it and put the water on, taking care to flow very shallow, so as to allow the sun to operate upon the grain. In the course of a week, or ten days, it will be sufficiently sprouted, and we then turn off the water: in a few days more, green spots will show themselves in different parts of the field, and we are thus notified that it is time to destroy this unwelcome visitor. A deep flowing will now put an end to all that has sprouted, or rot all which has become swollen, but which had not forced its way through the ground. The only caution that I think necessary to urge particularly, is, *flow shallow*. It is well known to every rice planter, that rice will not sprout in deep water, and that it will remain sound at a given depth for an indefinite time. This subject has been already touched upon by one of your contributors, to whose judgment and experience, great deference is due; my allusion is to Col. Bryan, who is so anxious on this subject, that he is willing to flow without gleaning, unless it can be done immediately after the harvest. This I have never been compelled to do; but I certainly would adopt it, rather than allow the rice to remain, during the winter, on the ground, with the chance of sprouting it in the spring, previous to cropping time.

8. *Whether, by this alternate flowing and exposure, the seed of different grasses, which now cause so much labor to keep the crops clean, would not be sprouted and rotted as surely as the grains of scattered rice?*

Our rice fields are infested by such a variety of grasses, that it is difficult to destroy them all by any one process; some wither and die in the water, while others literally flourish and thrive when apparently overwhelmed with its much of it however, is no doubt sprouted and destroyed by the flowing noticed in my answer to the last query; yet we do not sprout them as certainly as we do the rice. I do not recollect seeing any attempt to account for this, though it seems to me that a reason, at once simple and efficient, can be pointed out. The seeds of most of the grasses are dropped late in July or early in August, and are buried deep under the deposits and washings of the land, while the rice is dropped upon the surface, after the water has been run off with a view to the harvest. The rice on the surface is of course exposed to the action of both water and heat in a much greater degree than the grass seed; while the latter requires more heat than the former to swell, sprout, and cause it to vegetate. It is thus that the grass seed is left in the ground, while the shelled rice is sprouted, rotted and destroyed. In order to illustrate and prove my position, I will state a case. Suppose a rice field, not in good order, was planted in 1832, and treated for volunteer rice, as I have suggested, and with success. Now if this field is planted in 1833, and not attended in any way, the rice, though fairly put into the ground, and seen fairly out of the ground in the spring, will be overrun by grass during the summer, and at harvest-time it will be difficult to find the crop. This certainly proves, that although the shelled rice was sprouted by overflowing, the grass seed remained uninjured, and required the vivifying heat of the summer's sun to force it from its hiding place. Trenching with the broad hoe and open-planting, we are aware, have been proposed as a remedy for the evils we have been deprecating; but, on light lands, planting without covering, is attended with much and serious inconvenience, and for this reason I have not noticed it more particularly. There is one circumstance I had forgotten to mention, from which I have derived advantage, and which I strongly recommend to all planters who suffer much from

grass. If they will pass their seed-rice over a hand sieve, the quantity of grass seed obtained* will excite astonishment, and it should not be forgotten how small a bulk of these diminutive seeds will plant an acre, and, consequently, how much of it we sow with our rice.

9. *Whether a field, so flooded, would not have the stubble sufficiently rotted to render burning unnecessary in the spring?*

Rice stubble requires much time, moisture and heat, to rot it; a winter is not sufficient to accomplish this purpose, unless the land is deeply dug and the stubble turned entirely in. Even this will not always effect the object we have in view, and thus the labor of preparing the land for cultivation is much enhanced. I once bedded several acres of swamp land, which was very grassy, with the stubble on it, supposing that I should destroy the grass, rot the stubble, and fertilize the soil by improving its tilth. In the spring, when the beds were hauled down, the grass was certainly injured, and the soil was loosened, but the stubble was not rotted as I expected, and after planting and flowing, a quantity of trash was left on the land. Now, this trash is injurious in more ways than one. It is impossible to remove it all with one or two flowings; much of it remains in and on the land during the whole season, and at each flowing produces fermentation and acidity, thus rendering it necessary to change the water frequently. In addition to this, I believe it to be the cause or producer of bugs, which infest light lands so much, and which often compel us to flow at improper seasons and times. In the inland swamp, I understand the case to be different;—but I will not touch upon this subject, as you can obtain better information from those who cultivate them;—but, for the correctness of the views here taken, I appeal to every man who cultivates a mill-pond, on which the stubble has been either left or turned in.

10. *Whether, if so flooded one week, and exposed during the next week, alternately, throughout the winter, the soil would not be sufficiently soft and mellow to admit of trenching and planting between the rows of the preceding year, without the necessity of hoeing the whole field, as usual?*

That our river lands are sufficiently mellow to allow of our trenching and planting between the stubble of the preceding crop, does not admit of doubt, as many very successful planters pursue this method altogether; yet, it must not be concealed that it has its adversaries, who urge that it is the result of necessity with those who do it, and not choice. The gentleman before alluded to (Col. Bryan) is favorable to this mode of culture, and his remarks on other subjects are so judicious, that it is very probable he is right in this. My own impression is, on this, (as on most subjects), that truth lies in the middle. In stiff clay, it is certainly beneficial to dig and break up the land; it enables the water to percolate more freely the soil, and facilitates the progress of the rice roots in pursuit of food, and thus enlarges the quantity of grain produced; but in the light, black lands, the water finds its way very rapidly through the soil, and the rice roots meet with no difficulty in their search after nourishment, and, therefore, require no aid from the hoe. In addition to all this, my conviction is, that the healthy appearance of our rice, and the hardness, which enables it to resist the pestle, will be increased by leaving the land untouched until we plant it, especially if we keep in mind that in this way we approach (as near as loose land can) to the stiff clay of the inland, which produces our best and most beautiful grain.

11. *Whether, by a continuation of this simple process, the produce of the field may not be increased from fifty to seventy or eighty bushels per acre, with a corresponding improvement in the size, weight, and quality of the grain?*

* About one and a half or two per cent.

In order to settle this question, as well as the last, I have this year made an experiment, by planting four adjoining half acres, each in a different way, and subjecting them all to the same treatment. My impressions, from seeing the rice in the field and in the barn yard, are, that both the quantity is increased and the quality improved; but as I shall soon ascertain the fact by measurement, I will only detain you to say, that the result, if desired, shall be given to you at a future period.

12. *Whether more acres may not be planted to the hand, or much time saved for other valuable purposes by some such management?*

It is to me a matter of great doubt, whether the omission of digging will enable us to plant more to the hand than at present. It must be kept in mind, that under no circumstance can we begin to plant before a certain period, (say the 10th of March), and we must not forget, that early in May the old rice will want the hoe, and must be injured if it is not cleaned. Now, where land is turned, it is presumed to be chopped and ready for planting by the 20th of March, so that it is evident very little more could be planted in one way than the other. The time gained is in the winter, and not in the cropping season; and this time can be devoted to a variety of improvements on the high land, such as clearing land, making manure, &c. &c. &c. but not to the swamp crop. Planting largely of rice to the hand is objectionable on many accounts; it makes it late before the crop is out of the swamp, and thus renders it more liable to the disasters of the seasons; it is late before the three-hing is completed, and thus it is exposed to depredations; it enhances the labor of the negro more than is reasonable, and it detains us too long from the cleaning of ditches and raising of banks. Under no circumstances would we be willing to extend our planting beyond five or six acres to the hand, and even this will (if provisions are planted) entirely prevent our improving the land in any way, besides exposing the crop to birds, at a time when they are most destructive.

13. *Whether the rice is not most apt to grow rank, or tall, and therefore, lodge or fall in new and strong land? May not this be prevented by a proportionate increase in the number of rows in each task? On the principle of planting corn, &c. in rich river bottoms, will not the length of the stalks be reduced by increasing their number in proportion to the strength of the land? Will they not, by being nearer together, afford more support to each other, yield greater crops, and be less subject to accident?*

Roughness of land, the first year that it is planted, precludes a full crop; in the second year, or after it has been cultivated, the rice is most apt to lodge, and so on for several years, it is more and more luxuriant, until the surface (or cream of the land, as it is sometimes called) is worn off. Thick planting will, to a certain extent, prevent this; but a free and judicious use of water in the early stages of the crop, will, I think, prove efficacious. The quantity of seed put into a given space of ground, will diminish the length of the plant, but that it will increase the product of the land is, with me, a matter of great doubt.—At least, on the lands I cultivate. Indeed, the very reverse seems to be correct: I have varied from one bushel and a half to two bushels, but had no reason to be satisfied with the thick planting.

I will make one observation more, Mr. Editor, which though not called for by "An Observer," it may be well to communicate. Rice which is so luxuriant as to fall down, is generally supposed to have produced a great crop; this, I know, is the opinion of our drivers, and I understand is assented to by one of our oldest and best planters. If I am correctly informed as to the latter, it originated in the fact, that he is a non-resident in the country during the summer season. The fact, I assert on my own observation, is not so; it is the height it attains, and the quantity of blade it produces that causes it to fall; the ears, so far from being long and abundant, are few in number

and generally much shorter than those which sustain themselves in the field.

I fear very much, Mr. Editor, that you have been long tired of me and my answers, but, like other old men, when I begin to fight my battles over again, I know not when to stop. If my explanations are satisfactory to "An Observer," I shall be gratified; for I am certain, from his mode of asking questions, that, if we knew his pursuits, and could ask information of him, we would be both edified and enlightened.

I remain your well wisher, Q. E. D.

(From the New England Farmer.)

THE SELECTION AND MANAGEMENT OF A FARM.

Upon a proper selection of his farm, the comfort and prosperity of a husbandman mostly depend; of course every one cannot be guided by the same rules in these matters, but there are some general principles which it is believed are applicable to every case, and it is to be regretted that among an intelligent community they are so often disregarded. The wretched appearances of many of our farms—buildings ruinous and unsightly, soil weedy and unproductive, fences fallen and falling,—are to be ascribed in a great measure to one vast and prevalent failing, viz: the possession of *too many acres*. An extensive farm does not consequently prove a valuable one; it is not the number of acres cultivated, but the manner in which they are cultivated, that should engage the energies of the farmer—for the product of one acre thoroughly husbanded is superior to the produce of six managed in the common way.

Another oversight which causes much trouble and perplexity, is the disproportion which the different parts of a farm bear toward each other. The pasture is too extensive for the other grass lands and hay must be purchased, perhaps at an advanced price, to support the stock through winter, or a portion of that stock must be sold to preserve the remnant from starvation. The tillage is too confined to yield the crops which are actually necessary for the home consumption, and the barn or the wood lot must supply the deficiency. These are staring facts, but they are nevertheless true and of often occurrence.

Another subject which demands notice, is the want of capital among our husbandmen at their outset. This, though it cannot rightly be termed a failing, is in the most literal sense of the word an oversight. Farming requires capital as well as any other business, and a want of it often produces disappointment and failure. Ready money in this occupation is in every other, breeds more, or to say the least, makes a great saving. Buildings must be repaired, tools must be purchased, and various other matters furnished; and if the farmer, to answer his wants, has to part with a portion of his crops at an unreasonable time, and in an overstocked market, he feels the evil consequences for a long time. And how is this to be avoided ask one and another? In this way: never purchase a farm until you can pay for it without summoning the last cent from your purse, unless you have a speedy prospect of realizing a moderate and sure income, a part of which can be saved to defray unlooked-for expenses.

There is one more general cause of the disreputable appearance of so many of our farms, and it is the one most to be lamented—it is an actual ignorance of many important agricultural subjects. No farmer who reads the experiments and suggestions of others and prosecutes observations and researches of his own, need remain in ignorance of any division whatsoever of his employment. True, he may not be expert and thorough in every thing, and it is not to be expected that he will, but he may easily have a general knowledge of the principles of every subject included in the term, Agriculture. There are many who neither strive to better themselves by instruction and hints from others, or by a minute attention to the subject on their own part; on such men you can place no hope, and

you regret their negligence not so much on their own account, as on account of the ruinous example they offer to those under their direction and in their immediate vicinity. It is not impossible for the seeds of an evil tree to germinate, or for the vapors of a poisonous plant to spread far and wide.

Having noticed some of the principal causes of bad husbandry, I shall now offer a few general remarks on the selection and management of a farm.

In purchasing a farm, let your main object be to obtain one of a moderate size and suitably divided. The soil of course should be a primary object of consideration, but as there are various kinds adapted to the growth of various crops, no general rule can be consistently urged on this point. A good orchard is a vast acquisition to a farm, and enhances its value both to the purchaser and the seller; especially to the former, if he is desirous to escape the incessant trouble attendant upon the management of a young orchard, and is capable of prizing such an immense source of pleasure and profit. Amongst other things to be noticed in viewing a farm, is the supply and situation of water in pastures; this is often times overlooked, though nothing conduces more to the well-being of cattle, than a good and commodious supply of fresh and wholesome drink, and a sufficiency of scattering trees whose shade they can frequent in the heat of the day. It is a too common thing even to escape the notice of the casual passer-by, to find poor and deficient pasturage, not because the land is too barren to yield sweet and wholesome nutriment, but simply, because the same spot is used by generation after generation for the same purpose, without being assisted in any one way—or because it is continually overstocked. At the present day, a thrifty wood lot is an indispensable appendage to a good farm. As our forests are gradually disappearing, the value of this important article begins to be appreciated; in former days, extravagance in the consumption of wood was general, and at the present time in some tracts of our country the waste continues; in the thickly settled parts a scarcity is beginning to be felt, and if the injudicious and prodigal method of felling and consuming this article is continued where it is now plenty, that scarcity will increase till our markets are scantily supplied at an enormous price. In selecting a farm, then, bear in mind that, though an orchard can be planted, and good and durable fences erected, yet it is not an easy matter to make good soil; it is not a few years which will put you in possession of a handsome wood lot, nor generally a small sum of money which will supply a pasture destitute of natural streams with a good and commodious watering-place.

Upon the management of a farm, too much cannot be said; different individuals will pursue different courses, but notwithstanding this circumstance, there are some general principles a neglect of which will universally and inevitably cause ruin and distress. In the first place diligence and active, untiring zeal to accomplish the tasks which are ever before the husbandman, are indispensably necessary, and may be rightly termed the mainspring of agricultural mechanism. A sluggard and a loiterer never succeed; the one begins his work late, and the other is forever about it. Again—intelligence, and understanding of his work, is especially requisite for the farmer, if he wishes to perform that work easily and well; this he can only gain by strict attention and a desire to profit by the experiments of others, as well as by his own experience. Let theory and practice be combined in his occupations, for the one will seldom fail to detect the errors of the other, and they are often of mutual assistance to him, the theory guiding him in practice, and practice perfecting the principles of the theory. In the management, then, of a farm, diligence and intelligence are all in all; the one calls you to your work in season, and the other sets you about it in the right way.

Never permit the duties of one season or portion of

the year to run in and interfere with those of another, for the seasons are by no means too lengthy for the farmer to accomplish the work peculiar to each. It was truly said by Solomon, “there is a time for every thing,” and in no employment is this assertion oftener verified than in that of husbandry; the cultivator of the earth has so many duties to perform, that this axiom by him should never be forgotten. In spring, are his pastures and mowing lands to be top-dressed, and his fences viewed and repaired where they are found to be deficient, and many other duties (peculiar to this season) to be attended to? His time is occupied by other matters belonging to the past season. There was a time for these things, but it passed, and the farmer has only to bewail his lack of diligence. Again, he has a piece of labor (no matter what) to perform, and without the benefit of advice from others or personal experience, he undertakes it; it is finished, and there is either an error or slight in the manner of its execution. There was a proper and a profitable way by which he could have done it, but he was not aware of this himself, and he forgot that others might inform him.

Upon diligence and intelligence, two “pearls without price,” depend a farmer’s success in his avocation; where they rule, you can find no barren field, fallen fences, comfortless barn, or skeleton stock. L. L.

(From the Genesee Farmer.)

AGRICULTURAL AND HORTICULTURAL CHEMISTRY—ANALYSIS OF SOILS.

Rochester Nursery, December, 1832.

Partiality for any subject ought never to carry an individual beyond the limits of general interest, by intruding his opinions and partialities on the notice of others. The little attention which is paid to the science of chemistry at present by the generality of farmers and gardeners, and the above considerations, might have deterred me from introducing such a subject to the readers of the Genesee Farmer—but a firm conviction of its great benefits, as connected with the discrimination of soils, their amelioration, and improvement by simple means, induce me to venture on a subject in which I hope soon to have many coadjutors. What can be more interesting, instructing and beneficial, than for a farmer to know by a simple operation, the inherent qualities and nature of the various soils he possesses? to know the best and most efficient means of rendering them productive? to know the proper system to be pursued in arriving at such a conclusion? Such benefits he will derive from a knowledge of chemistry; for, “agricultural chemistry,” says the late Sir Humphrey Davy, “has for its object all those changes in the arrangement of matter connected with the growth and nourishment of plants; the comparative values of their produce as food; the constitution of soils; the manner in which lands are enriched by manure, or rendered fertile by the different processes of cultivation;” and he adds, “inquiries of such a nature cannot but be interesting and important, both to the theoretical agriculturist and the practical farmer.” The object of the present communication is to lay before the readers of the Farmer, the simplest and easiest means with which I am acquainted for accomplishing those desirable ends; and as I named in last week’s paper, I could not in my opinion do this more efficaciously than by quoting an article on this subject, published some years ago in the London Gardener’s Magazine, by Mr. Johnson, and is the method which I have myself ever since invariably adopted, and I have no hesitation in saying, for simplicity and accuracy, I consider it superior to any other instructions that have come under my observation. Mr. Johnson says:

“Two hundred grains are as eligible a quantity of any soil to analyze as can be selected.—Previously to analysis, a proportion should have been kept, slightly covered in the dry atmosphere of a room for several

days, to allow it to part with all the moisture that can be obtained from it by mere atmospheric exposure. Two hundred grains of the soil thus dried, should then be placed on a small plate, and held, by means of a pair of pincers, over the flame of a candle or lamp, with a small shaving of deal upon it, until this shaving begins to scorch. The process is then to cease, and the loss of weight sustained by the soil being thus dried, ascertained. We will suppose it amounts to 300 grains. The residue must then be gently triturated in a mortar, which properly should be of agate, and sifted through a piece of fine muslin; what remains in the muslin will consist of stones and vegetable fibres; the weights of these must be ascertained, and this we will suppose amounts to 150 and 5 grains respectively. The stones must be examined by dropping some sulphuric acid (oil of vitriol) upon them; if they effervesce, they contain chalk; if not, they are silicious, and will be sufficiently hard to scratch glass, and will feel gritty; or they are clay stones, will feel soft, and be with little difficulty cut with a knife. That part which passed through the muslin must now be boiled in a small tea cup full of clean water, for about five minutes; being allowed to cool, and a piece of clean blotting paper, previously dried before the fire and its weight ascertained, employed to strain the liquor through, care must be taken to get every particle of the soil into the strainer from the vessel in which it was boiled, by repeated washings with clean water. When the liquor is all strained away, place the blotting paper on a plate over the candle, with a shaving of deal on the plate, and dry it until the shaving begins to scorch. When perfectly dry, weigh the whole, and then, the weight of the paper being subtracted, the weight of the residue, and, consequently, the quantity of matter dissolved by the water, will be afforded; this, which consists of salts and vegetable extract, we will suppose, amounts to 42 grains. The watery solution must be carefully set on one side and the analysis of the solid parts proceeded with.—Half an ounce, by measure, of muriatic acid (spirit of salt) must be poured upon this in a saucer and allowed to remain for a full hour, being occasionally stirred with a piece of glass or porcelain; this must now be strained by means of a piece of blotting paper as before, the matter left upon it being frequently washed with clean water, and the washings allowed to pass through the paper to mingle with the other acid liquor; the matter left upon the paper being perfectly dried and weighed, and the loss ascertained, we will suppose this to be 20 grains. Into the liquor must be dropped gradually, a solution of prussiate of iron. The blue precipitate which this will occasion, being collected by filtering through paper, and washed as before, heated redhot by means of an iron spoon in the fire, and then weighed, we will suppose it to weigh 22 grains; this is oxide of iron. This deducted from the 20 previously ascertained to be in the solution, leaves 17½ grains, which may be considered as carbonate of lime, (chalk,) though probably with the admixture of a little carbonate of magnesia. The solid matter must now be heated to redness in a spoon, until upon cooling it does not appear at all black; this must then be weighed, and the loss noted; that loss consisted of animal and vegetable matters, we will suppose it amounted to 7 grains.—The remainder must be boiled for about two hours with two drachms, by measure, of sulphuric acid, mixed with 8 drachms of water, and, when cooled, strained through blotting paper and washed; when dried at a red heat in the iron spoon, the loss sustained will be alumina, (clay,) what remains will be Silica (flint). We will suppose the first to weigh 15 grains, and the latter 102½ grains. The analysis will then stand thus:—

Water, ...	30.5
Stones and coarse sand, ...	15.5
Vegetable fibres, ...	5.
Saline matters, ...	4.5
Oxide of iron, ...	2.5
Carbonate of lime, ...	17.5

Decomposing matter, destructible by heat, 7.
Alumina, ... 15.
Silica, ... 102.5

"The first watery lixiviation, employed to obtain the saline matter, may now be evaporated to dryness; if of a brown color, it is chiefly vegetable extract; if of a whitish color, it is principally saline, and probably consists of chloride of sodium (common salt) with the admixture of a little sulphate of lime (gypsum.)

"The above mode of analysis I have made as simple as possible, and it requires no other apparatus than a set of grain scales and weights, a little sulphuric and muriatic acids, and some prussiate of potash, the whole of which, sufficient for examining any soil on a large estate, may be obtained for thirty shillings, (\$6 60 cts.)

"In the above are no processes requiring adroitness in the manipulation, extreme nicety in the operation, or the practised eye of science and experience to conduct. All is simple, requiring nothing but the employment of the ordinary carefulness, and the common sense of the experimenter."

Such is the simple but accurate system recommended by a very scientific chemist; and it is a positive fact, by such simple means, Dr. Herry, of Manchester in England, was enabled to make experiments, numerous, varied and intricate, but with the utmost nicety and precision. The great object should always be to simplify every operation, and Mr. Johnson has done this most effectually in the analysis of soils. He proves unquestionably that the study of chemistry is neither a difficult nor abstruse pursuit, nor requires in its elucidation either scarce materials or expensive apparatus; but I will go farther, and state that my opinion is, the general principles of the science may be learnt from operations which are constantly going on around us, or which we can command at pleasure, and with which it would highly benefit every one, whatever his station in life, to become acquainted. That so many persons, not uninformed in other respects, should remain heedless and ignorant of the constitution of those commonest forms of matter among which their lot is cast, and upon which their existence depends, shows an indifference to things of the highest interest, which to say the least is unwarrantable. Let us hope that the days are at hand, if not already arrived, in which the acquirement of such fundamental knowledge will be looked upon as at least equally necessary with the study of languages, and the cultivation of taste and imagination.

ALEXANDER GORDON.

(From the Columbia (S. C.) Telescope.)

A NEW SPECIES OF COTTON.

Mr. Burrell Lyles, who resides on the river road, between Cannon's and Hollor's creek, in Dewberry district, brought to this market a few days since, three bales of cotton in store at Messrs. Woods & Subers', the staple of which good judges say is superior to any that has been seen here, and eleven cents has been offered and refused. I learn from Lyles that some four years ago he discovered in his crop a single stalk, remarkable for its height, and a number of pods which came to maturity and opened earlier than the rest. He saved and planted the seed from this stalk separately, from year to year, and this year he was enabled to plant about fourteen acres. The soil is of medium quality of upland, and the average height of the stalk about eight feet—occasionally they shoot up the height of twelve or thirteen feet, and he calculates the product at an average of a bale of three hundred and twenty-five pounds to the acre. The writer has seen a part of Mr. Lyles' crop, and knows that the description of the growth is not exaggerated, and with some knowledge of cotton planting, thinks confidently that the product is not overrated. The contrast between that and the adjoining crop of the common stock, upon lands of the same quality, is so great as to force it upon the attention of the mere passer.

My Lyles has thus given a practical illustration of the advantages which may be expected to result from a proper attention to the selection of seed for planting in all the departments of agriculture, and it is to be hoped that in the sale of his seed he will reap the reward due to his care. For the present he has contracted to dispose of all or most of his stock at a moderate price in such quantities as to disseminate it pretty generally through that part of the country in which he lives, and if the anticipations of it are realized, in a few years it will be worth more to South Carolina, than would be the combined products of all the gold mines of North Carolina, South Carolina, and Georgia.

D. J.

HORTICULTURE.

(From the Southern Agriculturist.)

ON ERADICATING THE BLESSED THISTLE, WITH SOME OBSERVATIONS ON THE PROPERTIES OF THE POISON ROOT, QUINOA, AND GAMA GRASS.

Mr. Editor,—I have often passed through my neighbors' pastures with regret, at witnessing the surface of the ground mostly covered with what I believe is called by some, the "blessed thistle;" and, from the regard with which this weed appears to be held in some folks' enclosures, it would really seem to deserve the name; or, that it was looked at with hal-lowed veneration by the owner as a national emblem. This thistle keeps at a distance every species of stock, and wherever it grows, the grass around it is looked at, in vain, by some hungry beast, with anxious solicitude. It deteriorates the soil as much as cotton, corn, or any other plant; and looks defiance at the approach even of the owner. To attempt to ride through a forest of these weeds, requires the fortitude of horse and rider, nearly as much so as to pass through a musquitoe swamp in silk stockinet pantaloons; and yet, with all these imperfections and hostilities, this weed is suffered to exercise its rights on our plantations, unheeded and uncontrolled. It is to solicit the attention of planters generally, that I avail myself of the opportunity of your useful paper, in suggesting such measures as my practical knowledge affords, that they may annually attend to, for eradicating this obnoxious and useless weed.

By way of stimulus, I will endeavor to convince the reader, that he who will reap it, may likewise make it useful, eventually. About the month of July, when the labor of the field is lessened, the hands are made to travel rapidly over the pasture, as a morning's job; and, with their hoes, regularly cut down, below the surface, every one of these vexatious, cum-erous productions, until not one is left for seed; a wagon, or cart, is then made to pass over the same ground, and a boy, with a sharp-pointed stick, with which he forks each stalk and throws it into his cart, which, when filled, he drives into the cowpen, and thus the noble ox is made to trample under foot an enemy which has hitherto bid defiance to his horns and teeth. This vegetable matter is soon converted into manure, and serves as good a purpose for litter in the pen, as any other trash which may be put there.

Agreeably to your request, I send you the seed, of what is called here, the "poison root," or "poor man's soap." Its botanical name I am unacquainted with. Its properties are certainly valuable to families, and were they generally known, as an article of trade it might be made more profitable than the celebrated madder, which Messrs. Dickerson & Co. have advised us to substitute for cotton, that we may be, thereby, made more thankful for the tariff, as having caused the novelty, at any rate, of a change of culture in the south. But to the poison root's properties. It bears, deep in the ground, a large root, which is dug and cut up fine, then put into a large pot, or kettle, of the best water that can be procured—this is boiled

welt for an hour; the water is then separated from the chips or bits of root, and in this liquid may be washed dannels, blankets, and any kind of woollens whatsoever, which it cleanses, and imparts a softness and brightness to, I have never seen done by any thing else, without injuring the color. It entirely subdues that hard feeling and offensive smell, which soap or any other substance may have previously imparted to the woollen. It is necessary, previous to the use of the root, to deprive the cloth of grease spots by means of soap, &c. as it does not possess the quality of soap in this respect; after using soap, the woollen must be rinsed in clean water previous to the use of the poison root. It is said (but this I will not vouch for from experience) that to prevent the attacks of moths, the clothing which is washed in the root-liquid should be dried in that state, without rinsing, and be packed away for summer.

I almost despair of seeing the ripening of the Quinoa, or South American rice, the seed of which you were good enough to provide me with. It certainly promises the most abundant crop of any thing I have yet planted; yet, its fruit has kept the same appearance of ripening that it now has, for the last three months. The most forward grains (and a new production seems to go on daily) are yet green. Will they all come to perfection at the same time?

As soon as I saw the Gama-grass seed you sent me, I was convinced it was a native of this state, having previously noticed it growing on dams and banks artificially made. I send you a specimen of it I found in abundance growing on the side of a bank thrown up as a fence about three or four years ago. Respectfully yours,

AN EXOTIC.

(From the Genesee Farmer.)

CULTIVATION OF THE WILLOW.

Little attention has been paid to the cultivation of this genus of trees and shrubs in this country, farther than for shade, and perhaps, in some instances, they have been set on the banks of streams and dikes, to secure them from being worn away by the force of the water. By studying the different varieties of this family of plants, it will be found that many of them are of consequence as connected with the arts. We import yearly into the United States, articles manufactured from the willow to a large amount, most of which is done by that class of laborers for whom we have not at all times sufficient employment, or not of that kind which gives as great a profit as the manufacture of different kinds of willow ware would. To render each variety of soil, whatever be the location, productive of the greatest net profit, should be the constant aim of every farmer, who feels that love of country, blended with a wish for the welfare of every individual in it, which we hope characterizes every reader of our paper. In almost every neighborhood in our country, there are particular places which appear to be peculiarly adapted to the cultivation of willows; in short, there are but few in which they may not be seen already growing in greater or lesser quantities. Although among those that are found thus growing upon the banks of small streams, or in low marshy places, few of them are suitable for that kind of manufacture which we have alluded to, yet, as the habits of most of this genus are the same, it goes to prove that where less valuable varieties spring up spontaneously, the more valuable ones would flourish were they once introduced. Of all the varieties of trees and shrubs natural to our climate, none are more easily propagated than the willow, as cuttings of all lengths from a few inches to ten or fifteen feet, when placed in a favorable situation, readily strike root and grow, often making shoots of considerable length the first season. When willows are once established, they will continue to produce young shoots from the

[* Don't despair. The Quinoa will be an acquisition to the United States. It will ripen in the middle states. Ed. Am. Farmer.]

*It is the *Æsculus Pavia*.—Ed. So. Agricult.

Crown each year for a great length of time, without apparent injury to the roots, although they are cut away annually during the winter. The manufacture of what is generally called *willow ware*, as cradles, market and work baskets, the covering of many glass vessels, &c., is peculiarly calculated for, and is performed mostly in England, by that class of people who are collected in poor houses, asylums, and such places where females and children constitute a great proportion of their numbers; and we recollect having visited a blind asylum, where many of the inmates were engaged in this kind of manufacture, and were surprised at the accuracy and neatness with which they performed it.

Now, our particular object at this time, in introducing this subject, is to call the attention of our supervisors, and others having charge of prisons, poor houses, asylums and houses of refuge, to it, as a means of giving profitable employment to such inmates as may enable them not only to support themselves, but to assist in defraying the expenses of building such establishments. The employment is such as the most delicate constitutions may engage in with safety, and nothing has been discovered attending it which has been deemed unhealthy. If our farmers would give this subject a little attention, our country might be materially benefited by it, even if no more ground was appropriated to the growth of willows than is now permitted to be covered by them. In selecting varieties for cultivation, respect should be had to the use to which they are to be applied, as no one variety will be found suitable for all purposes. Those intended for the frames of larger work, should be such as not only grow long, but their thickness or diameter should be consulted—while those for small articles should have length and elasticity, with the least possible thickness. Three or four varieties, well selected, will be found sufficient for stocking most grounds, and the variations of their shoots will be found sufficient for all the common purposes to which they are applied.

(From the Southern Agriculturist.)

MISSISSIPPI TOMATOES.

Mr. Editor: *Buffalo, Sep. 10, 1832.*

Being much pleased with your valuable paper, I tender to you for acceptance a few seed of the Mississippi tomatoes. They are found bordering on the Mississippi swamp, spreading an unusual length, forming a beautiful vine, ornamental; and the seed growing in clusters resembling grapes.

With sincere wishes for the success of your efforts in favor of southern agriculture, I remain, your obedient servant,

W. HAILE.

We beg that Mr. Haile will accept of our thanks for the seed sent. We will give them a trial next summer, and report our success. In the mean time it would be gratifying to us to receive from him a further account of this vegetable.—*Ed. So. Agr.*

(From the Genesee Farmer.)

VINES.

A subscriber asks whether "cuttings taken from such foreign vines as have been longest in the country are affected with the mildew?" We answer that in all cases where foreign vines are planted in open ground, after four or five years they will be troubled with the mildew. From the manner of the inquiry, we infer that our subscriber wishes to know whether European vines may not become so acclimated as to continue healthy and productive with us. The mildew on European vines in this country, is no more a disease than that which happens to our forests when they are felled by our sturdy yeomanry, or to our clover when it is turned under by the plough.—The injury done to vines by the mildew is mechanical. Mildew is a plant as much as the vine, which propagates itself upon it; the roots penetrate the bark, and not

only draw their nourishment from the vine, but they prevent the regular circulation of the juices of the vine. So long as European vines can be kept free from this parasitic plant, they flourish as well in our soil and climate as they do in the most part of France. Our native American vines are not so liable to be injured by the mildew in consequence of the hardness of the bark and wood, which will not admit the roots of the mildew to penetrate, and it is owing to this very hardness that cuttings from American varieties do not strike root as freely as those from European varieties. We know of no antidote against the mildew, but would recommend washing the stem of the vine several times each year with lime water, which will destroy the mildew then upon such parts as can be washed without injury to the vine, but young branches would be injured by its application to them.—The cooler the climate in which grapes are cultivated, the less they are subject to the mildew; and in our country, the northern are more favorable than the southern states for their cultivation.

RURAL ECONOMY.

(From the Farmers and Grazier's Guide.)

ON WATERING NEAT CATTLE.

Improper feeding is, as we have endeavored to show, injurious to neat cattle generally; but improper management, with respect to water, is productive of more serious consequences still; and is the chief origin of what is called among veterinary surgeons, *predisposition to disease*; in other words, the animal structure is, by mismanagement, rendered peculiarly liable to disease, and is then acted upon by the slightest cause.

Thus, a superabundance induces the quarter-ill, red water, and scouring; while a smaller quantity than is proper, is often a main cause of inflammatory disorders.*

Filthy and impure water should be avoided, as productive of the most serious consequences; it has been proved beyond all doubt, that impure water given to pregnant cows, is a more certain cause of abortion, or slipping of the calf, than any other, and also engenders bad udder, red water, and scouring, and materially diminishes the quantity of the milk, and injures the quality of the butter and cheese.

Neat cattle, but particularly cows, should be watered twice a day, and in summer, three times; this is the more necessary when they are kept on dry food: the water should be pure and transparent; the best of all is that which has been agitated by passing through a mill as it is then softer, and more favorable to digestion. It is a dangerous prejudice, that muddy or stagnant water is not injurious; we have just given a decided opinion on this subject, and shall, in the course of our observations, give several cases to support that opinion.

It is always advisable, when it can be conveniently accomplished, to pump the water intended for cattle-drink, into troughs of stone or cement; the best ponds of water being liable to impurity from several causes: as one of these, it may be observed, that they invariably void their excrement either in the pond or near it, immediately after drinking; and as there is generally a sloping bank to the pond, the dung must in some degree run down into the water, and by engendering various descriptions of the insect and vermin race, render it impure and unwholesome.

The water of ponds surrounded with ash trees is often during the summer covered with the cantharis or blistering fly, which the wind blows from the leaves of the trees. These insects when swallowed with the water, are certainly poisonous. This is par-

*Of course, a constant supply of pure water, say a running stream, in the pasture, is preferable, and not intended to be objected to by the term "superabundance."—*Ed. Am. Far.*

ticularly the case in France, but not so much so in England; still, the same cause exists, though in a less degree, wherever ponds are overhung by banks of trees.

Water is rendered much softer, and produces more milk by being blanched, as it is termed; that is, by having a little bran or meal stirred into it; but water so prepared must not be kept too long, as it is apt to ferment and become sour. During the heat of summer, cows are very apt to become costive, particularly where they are kept principally on dry food; in this case it will be necessary to give them water in which brao and linseed have been boiled; and even if they are not costive it will be proper to add occasionally, about a sixth part of a pint of vinegar to every pail of water, and especially so when the water is of an indifferent quality, or when the weather is very hot and dry.

It is a fact, that when cattle have been accustomed to drink impure water, even the washing of a dung heap, they will acquire a relish for it, and refuse good water if offered to them: but the consequences arising from this practice, although not always immediate in their visible effects, are certain, and sap the very vitality of the animal's constitution. We have stated that such a practice is a frequent cause of abortion, and productive of various and serious diseases; and we here repeat the caution from a conviction that no other water should ever be given to cattle than what is pure, sweet, and wholesome; and that the use of that which is impure, although used for a time with apparent impunity, will not only inevitably present disease, but will lay the foundation of a train of disorders, which will rarely, if ever, be eradicated.

(From the United States' Gazette.)

PUMPKIN PIES.

MR. EDITOR:

Having recently travelled through the "Land of Steady Habits," or "Pumpkin Dominion," (I mean the New England States,) there was scarcely a family but what, in the article of diet, when forthcoming at stated periods, would bring up the rear with a company or platoon of pumpkin pies.

My motive in this communication is to suggest to the fair sex of that region, a plan or receipt for making them, far superior to any I have learnt when among them, viz.

Take any given pumpkin, and after dividing it horizontally and ridding it of its seeds, and superfluous contents, place the two parts together upon a dish or pan in an oven or stove, with a slow fire, without the addition of water; let it remain therein for two hours, or until sufficiently baked: after which remove it, and the *subject matter* of the pumpkin may be readily separated from the skin, and will be found to be in the precise condition for pies, needing only the sugar and spices, which can be added according to the common rules of taste.

This, for simplicity, will not only save much labor, but exclude the milk and eggs as useless articles: the pies according to the above rule not only being better without them, but may be made with only one-fourth of the trouble attendant on the ordinary mode.

As I feel somewhat indebted for the hospitality I received, and feeling a disposition to reciprocate, I have taken the liberty to suggest the foregoing.

A. B. C.

(From the New England Farmer.)

NEW ENGLAND PORK.

MR. FESSENDEN:

Dec. 10, 1832.

Mr. Asa Littlefield, of Framingham, slaughtered a hog last week, that weighed when dressed 678 lbs.

It was weighed at the scales of Wheeler & Stone, and sold to Sylvanus Phipps, of Framingham; the hog was between eighteen and nineteen months old. The lovers of fat pork are invited to call and see so fair a specimen of New England production. Yours,

W. B.

MISCELLANEOUS.

(From Capt. Morrell's Journal of Voyages and Travels.)
A SOUTH SEA ROOKERY.

The feathered tribes are very numerous on these lonely isles of the southern hemisphere, both in the South Seas and in the South Pacific Ocean. Of penguins there are four kinds which resort to the Falkland Islands, viz. the king penguin, the macaroni, the jackall, and the rookery. The first of these is much larger than a goose; the other three are smaller, differing in appearance in several particulars. They all walk upright, as their legs project from their bodies in the same direction with their tails; and when fifty or more of them are moving in file, they appear at a distance like a company of juvenile soldiers. They carry their heads high, with their wings drooping like two arms. As the feathers on the breast are delicately white, with a line of black running across the crop, they have been aptly compared, when seen at a little distance, to a company of children with white aprons tied round their waists with black strings. This feathered animal may be said to combine the qualities of men, fishes, and fowls: upright like the first; their wings and feet acting the part of fins, like the second; and furnished with bills and feathers, like the third. Their gait on land, however, is very awkward; more so than that of a jack tar just landed from a long voyage; their legs not being much better adapted for walking than their wings are for flying.

The next most remarkable bird to be found on these shores is the penguin's intimate associate and most particular friend, the albatross. This is one of the largest and most formidable of the South Sea birds; being of the gull kind and taking its prey on the wing. Like many other oceanic birds, the albatross never comes on land, except for the purpose of breeding; when the attachment that exists between it and the penguin is evinced in many remarkable instances; indeed it seems as firm as any that can be formed by the sincerest friends. Their nests are constructed with great uniformity near to each other: that of the albatross being always in the centre of a little square formed by the nests of four penguins. But more of this in its proper place.

Another sea fowl peculiar to these islands is called the upland goose, and is about the size of our domestic geese; very palatable when cooked, being sweet, tender and juicy. Their plumage is rich and glossy; that of the gander a dazzling white; his bill being short and black and his feet yellow. The edges of the feathers which cover his breast and neck are black. The down is nearly equal to that of the swan, and would make beautiful trimming for ladies' dresses. But the down of the albatross is superior to any thing of the kind that I have ever seen; though that of the shag approaches the nearest to it in quality. If any method could be invented to divest it of that disagreeable fishy odor peculiar to all oceanic birds, it would be the most valuable down ever brought to this country; and I believe that their feathers might be made equally as valuable as geese feathers.

The teal is likewise found here, and surpassing in beauty those of this country. Their bills and feet are blue, their wings of a golden green; and the plumage of their bodies more brilliant than that of the pintado. The ducks are similar to those of our own country. There is also a goose here called the lowland goose, which somewhat resembles our tame geese. The males are of a variegated hue, a kind of mixture of white and dark grey, chiefly white. The females are mostly grey, and resemble the brant of the United States. They are not quite so large as our geese, and feed on shell fish and rock kelp, which gives their flesh a very unpleasant flavor.

October 19.—On the day after our arrival at New Island, all hands were set to work, in the discharge of their peculiar and various duties. A part of the crew were engaged in refitting the schooner, by repairing her sails, rigging, &c. Another part were

occupied in filling water, and the remainder were employed in gathering eggs from the rookeries on the backside of the island. As the latter process is not destitute of interest, I shall take this opportunity to make the reader better acquainted with a South Sea rookery, which is certainly a great curiosity. Indeed I know of few peculiarities in the history of animated nature that are better calculated to lead a reflecting mind to a serious contemplation of the merciful economy of Providence, in his government of the creatures to which he has given existence, than the one now under consideration.

By turning back to the "Introductory Sketch," page xxiv, the reader will find in a note my definition of the word rookery, as applied to certain oceanic animals. It is a temporary encampment of such animals, for the purpose of bringing forth their young; and they unite in immense numbers, and with great industry to construct it.

When a sufficient number of penguins, albatross, &c. are assembled on the shore, after a deliberate consultation on the subject, they proceed to the execution of the grand purpose for which they left their favorite element. In the first place they carefully select a piece of ground, of suitable extent, often comprising four or five acres, and as near the water as practicable; always preferring that which is the least encumbered with stones, and other hard substances, with which it would be dangerous to have their eggs come in contact. As soon as they are satisfied on this point, they proceed to lay out the plan of their projected encampment; which task they commence by tracing a well defined parallelogram of sufficient magnitude to accommodate the whole fraternity, say from one to five acres. One side of this square runs parallel with the water's edge, and is always left open for egress and regress, and three sides are differently arranged.

These industrious feathered laborers next proceed to clear all the ground within the square from obstructions of every kind, picking up the stones in their bills, and carefully depositing them outside of the lines before mentioned, until they sometimes, by this means, create quite a little wall on three sides of the rookery. Within the range of stones and rubbish they form a pathway, six or eight feet in width, and as smooth as any of the paved or gravelled walks in the New York Park, or on the Battery. This path is for a general promenade by day, and for the sentinels to patrol at night.

Having thus finished their little works of defence on the three land sides, they next lay out the whole area in little squares of equal sizes formed by narrow paths which cross each other at right angles, and which are also made very smooth. At each intersection of these paths an albatross constructs her nest while the center of each little square is a penguin's nest; so that each albatross is surrounded by four penguins; and each penguin has an albatross for its neighbor, in four directions. In this regular manner is the whole area occupied by these feathered sojourners, of different species; leaving, at convenient distances, accommodations for some other kinds of oceanic birds, such as the shag, or green cormorant, and another which the seamen call Nelly.

Although the penguin and the albatross are on such intimate terms, and appear to be so affectionately and sincerely attached to each other, they not only form their nests in a very different manner, but the penguin will even rob her friend's nest whenever she has an opportunity. The penguin's nest is merely a slight excavation in the earth, just deep enough to prevent her single egg rolling from its primitive position; while the albatross throws up a little mound of earth, grass and shells, eight or ten inches high, and about the size of a water bucket, on the summit of which she forms her nest, and thus looks down upon her nearest neighbors and best friends.

None of the nests in these rookeries are ever left unoccupied for a single moment, until the eggs are hatched and the young ones old enough to take care

of themselves. The male goes to sea in search of food until his hunger is appeased; he then promptly returns and affectionately takes the place of his mate while she resorts to the same element for the like purpose. In the interchange of these kind offices, they so contrive it as not to leave the eggs uncovered at all; the present incumbent (say the female) making room for the partner of her cares and pleasures on his return from the sea, while he nestles in by her side until the eggs are completely covered by his feathers.

By this precaution they prevent their eggs being stolen by the other birds, which would be the case were they left exposed; for the females are so ambitious of producing a large family at once, that they rob each other when they have an opportunity.—Similar depredations are also committed by a bird called the rook, which is equally mischievous as the monkey. The royal penguin is generally foremost in felonies of this description, and never neglects an opportunity of robbing a neighbor. Indeed it often happens that when the period of incubation is terminated, the young brood will consist of three or four different kinds of birds in one nest. This is strong circumstantial evidence that the parent bird is not more honest than her neighbors.

To stand at a little distance and observe the movements of birds in these rookeries, is not only amusing, but edifying, and even affecting. The spectacle is truly worthy the contemplation of a philosophic mind. You will see them marching round the encampment in the outside path, or public promenade, in pairs, or in squads of four, six or eight, forcibly reminding you of officer and subalterns on a parade day. At the same time, the camp, or rookery is in continual motion; some penguins passing through the different paths, or alleys, on their return from an aquatic excursion, eager to caress their mates after a temporary absence; while the latter are passing out, in their turn, in quest of refreshment and recreation. At the same time, the air is almost darkened by an immense number of the albatross hovering over the rookery like a dense cloud, some continually lighting and meeting their companions, while others are constantly rising and shaping their course for the sea.

To see these creatures of the ocean so faithfully discharge the various duties assigned them by the Creator; to witness their affectionate meetings after a short absence on their natural element; to observe their numerous little acts of tenderness and courtesy to each other;—all this, and much more that might be mentioned, is truly interesting and affecting to the contemplative and sympathetic spectator.

HABITS OF ECONOMY.—"A slight knowledge of human nature will show," says Mr. Colquhoun, "that when a man gets on a little in the world he is desirous of getting on a little further." Such is the growth of provident habits, that it has been said, if a journeyman lays by the first five shillings his fortune is made. Mr. William Hall, who has bestowed great attention on the state of the laboring poor, declares he never knew an instance of one who had saved money, coming to the parish. And he adds, moreover, "those individuals who save money are better workmen: if they do not work better, they behave better, and are more respectable; and I would sooner have in my trade a hundred men who would save money, than two hundred, who would spend every shilling they got. In proportion as individuals save a little money, their morals are much better; their husband that little, and a superior tone is given to their morals, and they behave better for having a little stake in society." It is scarcely necessary to remark that habits of thoughtfulness and frugality are at all times of immense importance.

PEACHES.—In the Covent Garden market, London, in August, peaches are quoted in a price current, at £1. 1s. and 10s. per dozen. Nectarines are quoted at the same prices.

Prices Current in New York, January 5.

Beeswax, yellow, 18 a 20. Cotton, New Orleans, 11 a 13; Upland, 10½ a 11½; Alabama, 11 a 12½. Cotton Baggins, Hemp, yd. 13 a 21½; Flax, 13 a 14½. Flax, American, 7 a 8. Flaxseed, 7 bush. clean, — a 13.25; rough, 14.25 a 14.50. Flour, N. York, bbl. 6.00 a —; Canal, 6.18 a 6.25; Balt. Howard st. 6.62 a —; Rhd city mills, 6.75 a —; country, 6.06 a —; Alexandria, 6.87 a 6.50; Fredericks', 6.00 a —; Peters's, new, 6.00 a —; Rye flour, 4.18 a 4.25; Indian meal, per bbl. 3.75 a —, per hhd. 17.50 a —. Grain, Wheat, North, — a —; Vir. 19 a 1.20; Rye, North, .84 a —; Corn, Yel. North, .75 a .85; Barley, — a .75; Oats, South and North, .50 a —; Peas, white, dry, 1 bu. 5.00 a —; Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess, 8.25 a 8.75; prime, 5.25 a 5.75; cargo, — a —; Pork, mess, bbl. 13.00 a 14.25; prime, 11.25 a 11.75; Lard, 9 a 9½.

SPLENDID PEONIES.

Just received and for sale at the American Farmer Office and Seed Store, a few of the POPPY FLOWERING TREE PEONY, (*Pæony arborea pappaveracea*), and of the TREE PEONY, (*Pæony arborea*). To experienced florists it might be needless to say a word about the great beauty of these plants; but the public generally may not be as well informed. A recent publication on horticulture thus describes the tree peony: "In the gardens of China they cultivate an immense number of varieties of this splendid plant,—some of which are said to be sold as high as a hundred ounces of gold; and in so much esteem is it held by them that it is there called the 'king of flowers.'"—*Prince's Treatise on Horticulture*. Of the poppy flowering peony the same work thus speaks: "The flowers of this plant are single or semi-double, but being of a pure white color, with a purple centre, they combine a delicacy calculated to excite great admiration; it is also more rare than the tree peony, and it is but a couple of years since Messrs. Prince paid five guineas for a very small plant." Price of the poppy flowering peony \$5 each, and of the tree peony \$2.50 each.

FLOWER SEEDS.

The subscriber has now his assortment of Flower Seeds ready for his customers, and will be happy to receive their orders. A printed list of them is just completed, which will be sent to any person who shall request it by letter (postage paid) or otherwise. These seeds are chiefly the growth of 1832, in the garden of this establishment, and are known to be from very superior flowers. I have several books also on floriculture, which are named in the Flower Seed Catalogue above referred to.

I. I. HITCHCOCK.

American Farmer Office and Seed Store.

RED ANTWERP RASPBERRY BUSHES.

For sale at the American Farmer Office and Seed Store Price, 12½ cents each; \$1.25 per dozen; or \$8 per hundred.

I. I. HITCHCOCK.

MORUS MULTICAULIS, OR NEW CHINESE MULBERRY.

Superior to all others for Silkworms in these respects: 1st. The stalk is low, and therefore the leaves are more easily gathered than from large trees.

2d. The leaves are large—from ten to fourteen inches long, and from eight to twelve broad, hence much of the usual labor of gathering is saved.

3d. A method of cultivation will be imparted to the purchaser of twenty trees at this establishment, by which he in three years have a full supply of leaves for any desirable silk establishment.

A few hundred of these trees are for sale at the American Farmer Office and Seed Store, No. 16 South Calvert street, by

I. I. HITCHCOCK.

FLOWERS.

Just received at the American Farmer Office and Seed Store "A Treatise on the culture and growth of different sorts of Flower Roots and of Green-house Plants kept in rooms, &c. to which is added a table of the Linnaean classes of botany, with their order and examples." Price 50 cents.

BUFFALO BERRY TREE, OR SHEPHERDIA.

A small number of these splendid trees, natives of the Rocky Mountains, and equally desirable for their fruit, and their beauty, have just been received and are for sale at the American Farmer Office and Seed Store, No. 16, South Calvert street. Price \$1 each. Those who want them would better make early application, as the demand is great and the supply scanty.

I. I. HITCHCOCK.

SILKWORM EGGS WANTED.

Wanted at the American Farmer Office and Seed Store, No. 16 South Calvert street, a quantity of Silkworm Eggs, for which a fair price will be paid, by

I. I. HITCHCOCK.

WANTED,

At the American Farmer Office and Seed Store, all kinds of GRASS SEED, CLOVER SEED, and choice Domestic Animals. Apply to

I. I. HITCHCOCK.

AGRICULTURAL IMPLEMENT AND SEED STORE.

J. S. EASTMAN, No. 36 vest Pratt-st. keeps constantly on hand a supply of his Patent Cylindrical Straw Cutters of the various sizes, which he will warrant to cut as much, according to their size, and to be decidedly superior in every respect to any similar machine made in this country.

Also, very superior Rag Cutters, for the use of Paper Mills.

Gideon Davis' Improved Patent Ploughs, of all sizes, with wrought and cast shares, and all kinds of castings for those ploughs by the piece or by the ton, as likewise for horse powers, on as reasonable terms as can be had elsewhere.

Wheat Fans, Corn Shellers, Threshing Machines, Harrows, Cultivators, &c. Likewise superior Cast Steel Axes, Hay and Manure Forks, and Scythes, &c. at wholesale and retail. Shovels, Spades, Hoes, &c. &c. And all repairs done at short notice.

Field and Garden Seeds. Such Grass Seeds as are in market will be kept for sale. My assortment of Garden Seeds is not so extensive as advertised by some, but such as I shall offer for sale may be relied on as genuine. The following I can offer at wholesale, viz: Superior Early York Cabbage, and Long Scarlet Radish Seeds, and Early Frame Peas, the latter raised by Richard Cromwell, Esq.

STRAW CUTTERS, CORN SHELLERS, &c.

SINCLAIR & MOORE, offer for sale a variety of kinds of Straw Cutters, the Cylindrical of the following sizes and prices, viz. 11 inch bbl at \$27. 14 inch at \$45. 16 inch at \$55. 20 inch at \$75. The smallest (price \$27) will cut 300 bushels of straw one inch long per day, and is precisely the kind spoken of in the following note, addressed us by the proprietor of the American Farmer:

GENTLEMEN: Baltimore, October 2, 1832.

John G. Eliot, for whom we bought one of your Straw Cutters last year, writes me thus, under date of Sept. 20, 1832:

"The Cutting Knife answers well. I would not be without it for the price of two."

I have much pleasure in communicating the above, for I think the instrument well deserves the compliment thus bestowed on it. Yours, truly,

SINCLAIR & MOORE, Balt.

I. I. HITCHCOCK.

The second size has cut, in the vicinity of Baltimore, seven hundred bushels per day, with manual power.—The third and fourth are capable of much more, particularly with horse or water power. These machines may now be expected to go into more general use, as they can be furnished at a more moderate price.

Also circular knife self-feeding boxes at \$5. Common Dutch box at \$7.50, and smaller size at \$5.

CORN SHELLERS, with vertical cast iron wheels, very durable and easily kept in order, which shell with great ease and rapidity, price \$20. CAST STEEL AXES, with a general assortment of AGRICULTURAL IMPLEMENTS and GARDEN SEEDS.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—There is scarcely any change in the prices of produce. Indeed, although our harbor has remained open to the present time, and bids fair to continue so the remainder of the winter, business has been in a great measure suspended. The wagon price of Howard street flour remains at \$5.50. The store price is nominally as quoted.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a —.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 105 hhd. Md.; and 35 hhd. Ohio.—Total 140 hhd.

Flour.—best white wheat family, \$6.75 a 7.25; super Howard-street, 5.62½ a —; city mills, 5.50 a —; city mills extra 5.62½ a —.—CORN MEAL bbl. 3.50;—GRAIN, best red wheat, 1.10 a 1.15; white do 1.16 a 1.20.—BURN, white, 60 a —, yellow, 61 a —; RYE, 72 a 73.—OATS, 42 a 43.—BEANS, 75 a 80.—PEAS, 65 a 70.—CLOVER-SEED — a —.—TIMOTHY, — a —.—ORCHARD GRASS 2.00 a 2.25.—Tall Meadow Oat Grass 2.00 a 2.50.—Herd's 75 a 87½.—Lucerne — a 37½ lb.—BARLEY, FINEST 1.50 a 1.62.—COTTON, Va. 10a12½—Lou. 12 a 14—Alab. 10 a 13.—Tenn. 10a 12½.—N. Car. 10a 12½ Upland 10 a 13.—WHISKY, hhd. 1st p 30 a —; in bbls. 32½ a 33.—Wool, Washed, Prime or Saxony Fleece 45 a 50; American Full Blood, 38 a 42; three quarters do. 33 a 38; half do. 30 a 33; quarter do. 25 a 30; common 25 a 28.—Unwashed, Prime or Saxony Fleece, 25 a 30; American Full Blood, 22 a 25; three quarters do. 20 a 22; half do. 18 a 20; quarter do. 15 a 18; common, 16 a 18 Hemp, Russia, ton, \$200 a 210; Cotton, dew-rotted, 6 a 7c. lb. water-rotted, 7 a 8c.—Feathers, 37½ a 38; Fluster Paris, per ton, — a 5.75, ground, 1.50 a —. hbl. Iron, gray pig for foundries per ton 33.00 a —. pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 17.50 a 25.00.—Prime Beef on the hoof, 45 a 50.—Oak wood, 4.00 a 5.50; Hickory, 5.50 a 6.00; Pine, 2.25.

CONTENTS OF THIS NUMBER.

Editorial; Manure—Scuppernon Grapes and Wine—Foreign Markets—On the Culture of Rice—On the Selection and Management of a Farm—On Agricultural and Horticultural Chemistry; Analysis of Soils—A new species of Cotton grown in South Carolina—On Eradicating the Blessed Thistle, with some observations on the Properties of the Poison Root, Quinoa, and Gama Grass—Cultivation of the Willow with a view to the Manufacture of Willow Ware—Mississippi Tomatoes—To Prevent Mildew on Vines—Necessity of Proper Attention to Watering Nest Cattle—To make Pumpkin Pies—Large Hog—A South Sea Rookery, as described by Captain Murrell in his Journal of Voyages and Travels—Habits of Economy—Prices of Peaches in London—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

The American Farmer,

Edited by GIDEON B. SMITH, is issued every Friday. TERMS.

1. Price five dollars per annum: due at the middle of each year of subscription, provided that no balance of a former year remain unpaid.

2. The manner of payment which is preferable to any other for distant subscribers, is REMITTANCE BY MAIL OF CURRENT BANK NOTES; and to obviate all objection to this mode, the publisher assumes the risk.

3. Subscriptions are always charged BY THE YEAR, and never for a shorter term. When once sent to a subscriber, the paper will not be discontinued (except at the discretion of the publisher) without a special order, on receipt of which a discontinuance will be entered, to take effect at the END of the current year of subscription.

4. PRICE OF ADVERTISING.—One dollar per square, and in the same proportion for more than a square, or more than one insertion.

77 DIRECTION OF LETTERS.—Address all BUSINESS letters concerning the Farmer, the store, or the agency, to the proprietor, 41. Irvine Hitchcock, Baltimore, Md.

Printed by J. D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, JANUARY 18, 1833.

THE FARMER OF LAGRANGE.—Consistent as have been his principles, and constant as has been his devotion to the great principles of freedom and of universal philanthropy, the veteran *Lafayette*, no where displays his character in a more amiable and captivating light, than in his favorite occupation as a farmer.

It is known that during his triumphant tour in America, one that caused the most spontaneous, universal and unadulterated flow of national gratitude that was ever exhibited, no invitation was more cordially accepted than the one from our Agricultural Society, to distribute its premiums,—and those who won what is denominated, *par excellence*, the "*Lafayette* premium," gave it suitable inscription, and still show it as the proudest trophy of their agricultural career. What would tempt the owner of Hayfields, for instance, to part with his noble tankard "*presented by the hands of Lafayette for the best cultivated farm.*" We wish we could recollect the spontaneous (and always happy) outpourings of Gov. Barbour, on receiving it filled with his native *mint sling*, and responding at one of our agricultural dinners to the eloquent *tr-o-n-e-s*, (we wish it were as easy to get at the *n-o-t-e-s*), of the *casher* of the ——— Society. But whilst our zeal has died away, leaving an undivided surplus in the treasury, the venerable Farmer of Lagrange is as much devoted as the youngest agriculturist, to his sheep, his hogs, and his cattle, and as proudly boasts of his *premiums*; always attaching double value, to those which are won for any thing that has in it American blood. Judge by the following extract from a letter from him to Mr. Skinner, formerly editor of the American Farmer, of the enthusiasm and noble simplicity of the Farmer of Lagrange,—he to whom the king of the French in the flush of gratitude, acknowledged he owed his throne, and promised to surround it with "Republican Institutions;"—

Lagrange, October 8, 1832.

For the state of political affairs I refer you to the papers from this side of the Atlantic. We had lately a departmental *cattle show* in presence of the Prefect, and a deputation from the Paris Agricultural Society, to the Society we have formed at Rosay. A jury of twenty members had been selected from the several parts of the department of Seine au Marne. Of the four prizes awarded to me, there was a first one to a boar, coming from your present of a fine breed of hogs; and another first prize to my merino females, two others for a cow, issued from Mr. Patterson's Holkham breed, (Devons,) which has increased in size on my farm, and to a ram, rather a small one, of excellent wool. You see that America had a distinguished part in the show; my wool is indisputably the finest in this department; but farmers set a value by the size of the animals, too much so perhaps, as the forms and qualities are the important points. Yet you see justice has been done to my flock. No race of hogs that I know of, are equal to your black breed.

In a letter of subsequent date, by ten days, the old General displays again his American partialities,—"*Would it,*" says he, "*my dear friend, be possible, without giving too much trouble, to procure for me some more wild turkeys, some partridges, some deers and terrapins; this is a great deal indeed.*" But I have but one American deer—*Americanus cervus*, and am afraid to lose him. My full blooded turkey wild cocks are living, but some of their kind, male and females, would do. Your hogs are flourishing, and Mr. Patterson's bull, (Devon,) that he gave me, produces larger than he was. Mr. Morris' steam machine works admirably." [This was a costly and highly finished steam apparatus, presented to the General in the most delicate manner, by our fellow citizen, Mr. J. B. Morris, Esq. On taking out the

old veteran to see the Hon. R. Smith's Orange Farm, with its hundred cows, its extensive and well arranged dairy, its apparatus for preparing and steaming their food; the General inquired, "whether it would be practicable to get a *model* of the steam engine." Mr. Morris replying, "that he had no doubt of it;" caused a very perfect machine, upon the largest scale, to be finished in the highest style of workmanship and efficiency, and sent it out at his own expense to the General.]

AMERICAN SILK FILATURES.—We have several times had occasion to remark, in reply to inquiries where a market for cocoons could be found, and to observations that, "if filatures were established, the raising of cocoons would be immediately commenced," that as soon as a sufficient supply of cocoons could be secured, filatures would, as a matter of course, immediately follow, and not till then. The Cincinnati Farmer and Mechanic differs from us in this opinion, and thinks that filatures should be erected to induce the farmers to produce cocoons. Certainly this would have a good effect; but who will do it? Who will go to the expense of establishing a filature in Cincinnati or in Baltimore, when he knows that he cannot obtain cocoons enough to keep a single reel going one month? This is a practical question—and it is practically answered by the fact of the non-existence of filatures in these places. But let it once be known that *mulberry orchards* exist in extent sufficient to keep a filature in operation, and we pledge ourselves that the filatures shall not be wanting.

We beg leave once more to caution the people of the west against depending upon their native mulberry trees for a supply of leaves for silkworms, and earnestly to recommend them, if they intend to enter into the culture of silk, to plant regular orchards of either the new Chinese or Italian mulberry, convenient to their houses. They may be assured that a dependence upon the native mulberry in its wild state will be fatal to the progress of the enterprise. The Farmer and Mechanic encourages this dependence. It says, "Here it [the mulberry,] exists in a state of maturity, one of the common trees of the forest, and in a few weeks, at the proper season, the raw material can be produced." If even the Italian mulberry existed ever so plentifully in the forest, it could not be depended on for silkworms. The food for worms must be convenient—the trees should surround the laboratory, that the labor and time of gathering the leaves do not cost more than the cocoons are worth. The wild mulberry we know makes good silk, and does very well for feeding a small number of worms; but we also know that the white, and especially the new Chinese mulberry, make better silk and more of it, and that if we intend to raise worms enough to make it an object worthy of attention, we must have the trees at the door. We have spent too much money in gathering leaves from the woods, (and they are as plentiful here as in the west,) to feed silkworms, to be mistaken on this point.

We recognise fully, the character of the western people for enterprise, and readily agree with the Farmer and Mechanic, that they are disposed to engage in new pursuits. They will ultimately become a great silk producing people—but not till they shall resort to regular plantations of the more approved kinds of mulberry. Nor will any silk reeler, skilled in the art, ever establish a filature amongst them while they continue their dependence on the wild trees. We beg the people of the west to take this matter into serious consideration, and to be assured that we speak from something more than conjecture—having paid pretty dearly for the experience on which we found this advice.

A two shear sheep was killed at Hedon, on Monday week, bred and fed by Mr. Iveson, of Pauli Holme, weighing 13st 12 lbs. or 484 lbs. per qr. the weight of its two fleeces being 12½ lbs. of wool.—*Hull Adv.*

AN IMMENSE SHEEP.

In the (Irish) Galway Free Press, of October last, loaned by one who has an eye and a palate and a heart for good things, we find the following account of an enormous *Switzerland* sheep, nearly as heavy as some of our lower country bullocks—such as are put at a week old, to live on one test until they can eat grass, of which there is, usually, a plentiful scarcity. Then starved for two years—then broke and worked, and starved for four more, and then half fattened on *mubbings* and *rotten corn*!

The height of this sheep is most extraordinary, for it cannot be believed that a gross falsehood would be told on the very spot of its exhibition—*five feet high!*—That is, to use a parlance that farmers will understand, and to give them a standard of comparison, the height of a horse that is *fifteen hands*! larger than many that have won gold cups, and king's plates! What a dish it would require for its saddle?

"A prodigious Switzerland sheep, exhibited at Stour-bridge fair, (and which is to visit Petersburg, Bury, and other fairs) caused a very great sensation among the farmers, few of whom anticipated seeing a sheep of the enormous weight of 402 lbs., standing five feet in height, and being seven feet in length. The sheep was yeaned on the mountains of Switzerland, and is now three years old. It has been publicly exhibited to the most distinguished naturalists in Europe, and at the Tuileries in Paris, before the royal family of France. It has produced annually 55 lbs. of wool, and is carried in a convenient caravan to fairs, as an extraordinary curiosity."

CAUTION TO MUSHROOM EATERS.—On Tuesday the 25th ult. the son of a laboring man residing at Painsooth, on returning home from Pengrepp, gathered a number of large mushrooms, which he gave to his mother by whom they were dressed as a stew. The whole family partook of the stew for supper. The woman only ate a little; and the boy by whom the mushrooms were gathered partook more sparingly of the stew than the rest of the family. In the course of the night they were all taken ill. In the morning they sent for an emetic, which they took. Afterwards a medical man was sent for, but he did not arrive till the evening, by which time the younger child, a fine boy of three years of age, died. Every assistance was given to the other sufferers, but, notwithstanding this, two others, a girl about five, and a boy about seven years of age, died on Thursday morning. On Friday a girl of ten years expired; and on Monday last the father, who was supposed to have been better, also died. The mother has not been very ill, owing to her only having tasted the fatal meal; and the boy who gathered the supposed mushrooms was so far recovered on Tuesday as to be able to go to the spot where he found them. On examining some of a similar kind found there, they proved to be large fungi, five or six inches in diameter, sprouting from the stock of an oak tree that had been cut down. [West Briton.]

When Noah planted the first vine, and retired, Satan approached it and said—"I will nurture you, charming plant!" He quickly fetched three animals; a sheep, a lion, and a hog; and killed one after another, near the vine. The virtue of the blood of the three animals penetrated it, and is still manifest in its growth. When a man drinks one bottle of wine he is then agreeable, gentle and friendly; that is the nature of the lamb. When he drinks two he is a lion, and says "who is like me!" he then talks of stupendous things. When he drinks more his senses forsake him, and at length he wallows in the mire—need it be said that he then resembles a hog.

A potato, of the long red kind, was lately taken up in the garden of Mr. J. Bayley, Washington, weighing forty-nine ounces.—*Newcastle Chronicle.*

AGRICULTURE.

SOME OBSERVATIONS ON MARL, IN REPLY TO MR. RUFFIN.

MR. SMITH:

Some weeks ago, I sent a communication to the editor of the Richmond Enquirer, on the subject of marl, which was republished in your valuable Farmer, of the 16th of November, and to this Mr. Ruffin has replied, in a late number of that newspaper. If you can spare sufficient space for this communication, you will oblige a constant reader by its publication.

I did not state, that Mr. Ruffin gave grounds for the inference, that the mere existence of the *impressions* of shells in any earth, proved it to have value as a manure, or that it contained carbonate of lime. On that point I gave my own opinion alone, that it might stand for what it was worth, and said the substance in question, I believed to be a mere clay, and without any carbonate of lime—and if it contained gypsum, it had escaped my observation. Mr. R. supposed it to be a gypsaceous earth, and now states, that the earth, “which retains the impressions of shells without containing any carbonate of lime, certainly was formerly, what we (improperly) called marl.” Thus far we perfectly coincide, and both believe, that the shells existed before they disappeared, leaving nothing but their impressions in the clay. It is a subject of much curiosity, and one very difficult to explain what has become of the shells; if they have been dissolved, where is the lime they contained; if still there what acid so neutralizes it, that it cannot be detected? Mr. Ruffin says, “the shells were certainly changed to sulphate of lime, before their substance was principally or totally removed, and an examination of the bed will best establish the correctness of these opinions.” I am sure the bank he speaks of in Prince George contains in places crystals of gypsum; but he tells us, “in most cases, the gypsum that may be supposed to have existed at some former period is entirely lost, or remains in small proportions.” He gives us no proof by analysis, or otherwise, that the “shells were certainly changed to the sulphate of lime,” and then, the gypsum “that may be supposed to have existed at some former period, is entirely lost.” If entirely lost, it cannot now be detected, and its former existence rests on supposition alone, which I fear looks a little more like theory, than practice. It would be a public, and individual benefit on a very large scale, if it could be ascertained by actual experiment to the satisfaction of the community, that this clay where *impressions alone* of shells are to be found, could be used as a manure to fertilize our fields; and in point of fact, it would matter not, whether it improved them by the gypsum it may contain, or because it “feels fat and oily.” There is an extensive range of country, which lies just above the district in which shell marl is found, of a light sandy soil, far better adapted to the production of Indian corn, than wheat, which yields from two to three barrels per acre, when at its best, and throughout nearly its extent, this blue clay with impressions of shells is to be found; it rests on a bed of still bluer clay in which no impressions are to be met with, but which is as close as wax, “feels fat, and oily,” is “smooth like lead ore,” and “is without a mixture of gravel or sand,” and can be cut like soap with a knife, presenting very much such an appearance except in color. If either of these clays could be used as a manure, it would be the mean of fertilizing, and bringing into cultivation thousands of acres of land, which now lie waste and unproductive. I will propose to Mr. Ruffin to apply as many cart loads of this clay with the impressions of shells as he may deem proper, to an acre of land, and also of the closer blue clay *without* impressions (if he has it), to another acre, and I will do the same, and at a future period, when sufficient time has elapsed, we will communicate the result of our experiment to the public.

It was observed in my former communication, that

much obscurity prevails in most of the English authors, who treat on the subject of marl, yet I thought it was clear from an examination of their writings, that they valued marl and clay which contained lime, more highly than such as did not. I could not suppose for a moment, that Mr. R. coincided with the somewhat confused opinions conveyed by most of his quotations, but regretted that he had not thrown more light on the subject, and brought the British authorities (of which he might have collected a host) to support his own opinion of the value of calcareous manure. It appears to me, that a slight examination of these authorities will compel one, to infer that such clay or marl as effervesces with an acid, is far more valuable in the opinion of nearly all of them, than such as does not. Indeed I should like to be persuaded by them of the contrary, inasmuch as clay is much more generally diffused throughout the country than marl. The quotation from Bordley does not exactly bear Mr. Ruffin out, in saying it “is a most striking proof of the erroneous opinion, that an extensive reader of agricultural works, among which Young’s and Anderson’s stood prominent, could not avoid forming as to the nature of marl.” Bordley says, “My own farm had a greyish clay, which to the eye was marl; but because it did not effervesce with acids it was given up, &c.” Here we are expressly told, that a clay, which to the eye was marl, was given up, because it contained no carbonate of lime, which is proof, that he was in search of a calcareous manure. At page 219, Essay on Calcareous Manures, there is a quotation from Kirwan on Manures, that, “In Norfolk, they seem to value clay more than marl, probably because their sandy soils already contain calcareous parts.” Mr. Ruffin then observes, “From this it would follow, that the great and celebrated improvements in Norfolk, made by marling had actually operated to lessen the calcareous proportion of the soil, instead of increasing it, and if Kirwan was deceived on this very important point, it furnishes additional proof of the impossibility of drawing correct conclusions on this subject from European books, when it is left doubtful, whether the most extensive, the most profitable, and the most celebrated improvements by marling in Europe, have in fact served to make the soil more or less calcareous.” I have always understood, that the marl so extensively used in Norfolk, was of a calcareous nature. The soil of that country being always described as sandy, or a sandy loam, without any allusion to its containing calcareous matter. I believe the practical farmers of that part of England would tell us, (the mineralogists to the contrary notwithstanding,) that their object in marling, was to add lime to their soil, and thus, as an experienced agriculturist, speaking of *this very soil*, says, and thus, “mechanically bind it, and improve its capacity for holding water for plants, their soil being generally a sand, and their marl composed of clay and lime.” Kirwan may have been misinformed on the subject, and certainly appears to have given himself very little trouble to ascertain the exact state of the case, for he says, “probably because their sandy soils already contain calcareous parts.” Had he been very solicitous on the subject, he might have ascertained the fact with certainty, and not have ventured an opinion on conjecture alone. Young, in his voluminous and clumsy Survey of Norfolk, although he says, “the marl they use is generally calcareous,” is not half so satisfactory as he might have been, had he exercised more personal observation and industry. If they value clay more than marl on the sandy soil of Norfolk, one would naturally conclude from their great experience, that on sandy soils in this country, clay would have a similar effect, and that those of us who occupy such soils, should (following their example,) apply clay rather than marl. What is applicable in practice in England ought to hold good in this country, and if in Norfolk, “most persons prefer such marl as contains the most clay, and the least calcareous earth,”

I do not see why we should not do the same thing. They have great experience on the subject, and their practice ought to have weight with every one. But yet I reject the use of clay with impressions of shells in it, and the stiff blue clay described above, and apply, from choice, shell marl as extensively as I can. Indeed I am so confident, that it is the better manure of the two, that I cannot as yet prevail on myself to apply the clay to a single acre of land even by way of experiment. My practice in this respect I am sure will be approved of by Mr. Ruffin. I believe we shall agree in another point, our estimate of the value of marl as a manure, and that this value is, in the words of an English author on the subject of marl, “always in proportion to the calcareous matter it contains.”

M.

CULTURE OF RUTA BAGA.

Brinkleyville, Halifax County, (N. C.)
Jan. 1st, 1833.

MR. SMITH:

Herewith is transmitted a certificate, with some accompanying remarks respecting my success in cultivating the Ruta Baga or Swedish turnip. If by this statement, I can contribute my might of influence towards promoting the more extensive cultivation of this very valuable vegetable, my purpose is answered. I was indeed to attempt its cultivation from the high encomiums bestowed upon it in the columns of the American Farmer, by some of the most eminent agriculturists of the union. On suggesting my design to a friend, he said he believed several had made the attempt in the county without adequate success. At my solicitation, however, we sent to Baltimore and obtained some genuine seed. The plot of ground mentioned in the annexed certificate, or about a quarter of an acre on which I made the first trial, produced last year, at the rate of five hundred bushels to the acre. It is a sandy loam by no means very rich. I put upon it this year about four cart loads of yard manure in the drill, according to the directions of Mr. Cobbett. As to this able writer on agriculture, I cannot forbear here remarking that, lighting upon his “Year’s Residence,” in the first volume of the “American Farmer,” I obtained more valuable hints than ever I had done in the same compass of reading, not only on the Ruta Baga but general subjects of agriculture. This year I planted the lot mentioned in the certificate on the first of July. And other plots of ground were planted at different times in succession, till near the first of August. And I continued to transplant by thinning from the rows planted till towards the last of September. In all, nearly two acres were put in cultivation. I would here observe, that I consider the middle of July the best time for planting the Ruta Baga in North Carolina.

About the first of August, I commenced stripping the under leaves of the earliest planted, for feeding my stock; particularly for out hogs. Through the course of the fall past, I found the leaves fine for horses, oxen, cows, in short for all domestic animals; even for geese and poultry. And being very large they are gathered with great speed and facility.

As to the size of the leaf, I measured across several plants, or from end to end of leaves extending each way from the stock. Some measured five feet two inches. Accordingly, when the rows are three feet apart, the leaves lap thirteen inches. The roots of this plant seem to stand unrivalled for feeding stock and for domestic cookery. And in our climate there is no need of housing these plants for winter use. Last winter was one of unusual severity here. But by the simple precaution of throwing furrows towards them late in the fall, they were uninjured. And late this spring when other turnips were unfit to use, the Ruta Baga were still excellent for soups and sauce. And I find the leaves for greens, in the spring or any other time, are as good as the best.

I close by annexing the certificate named.

SIDNEY WELLER.

We hereby certify, that having, in company with Mr. S. Weller, examined his crop of Ruta Baga or Swedish turnip, the following was the result. One Ruta Baga weighed eleven pounds and a half, another nine pounds; and of a row, several of which being weighed, the average seemed to be seven or eight pounds a piece.

This row thirty-five yards long, being one among others drilled three feet apart, and turnips standing a foot apart in the drill, produced when measured, four heaping bushels, which, according to calculation, would make a yield of about six hundred bushels to the acre. A turnip of the kind, called early Dutch, was weighed at the same time, and its weight was ten pounds and three-quarters.

ROBERT VINSON,
JESSE HAILE.

December 26, 1832.

(From the Southern Agriculturist.)

REPORT OF A COMMITTEE, ON MARSH MUD AS A MANURE FOR COTTON.—Read before the St. Andrew's Agricultural Society, of James' Island, July 3, 1832.

It is but of late, that the practice of manuring with this substance has been introduced; your committee are not, therefore, prepared to say much on this subject from their own personal experience: they must resort to the result of the investigation of others. Several reports, from men of high attainments in agricultural knowledge, leave it beyond dispute, that salt mud possesses valuable properties as a manure for the cotton plant. If our opinions were to be guided by all that has been said in favor of its use, we should be nearly forced to acknowledge, that a manure has at last been discovered, adapted to all descriptions of soil, and all differences of season: but reason, as well as experience, teaches us this cannot be.

Seeing then, that the introduction of mud as a manure, is of so recent a date, that the encomiums passed upon it, are so extravagant; it becomes the duty of the planter, to proceed cautiously in its use, and not too hastily and implicitly confide, in all the virtues ascribed to it; for no doubt, the same rule holds good in agriculture, which is but too truly applicable to every other sphere of life, that novelties are apt to gain unlimited respect; each new invention, and each new theory, immediately obtains disciples, who, having no eyes, but for one side of the subject, truth cannot be attained, until time, the friend of truth, lifts the veil of prejudices and discloses the fact.

We have been led to these remarks, because we have reason to believe, that many planters have already been induced to enter too largely into this system of mud manuring, and perhaps not paid sufficient attention to the nature of the soil requiring its use.

We propose entering into a full consideration of this subject, under the following heads:

- 1st. The nature of salt mud, and its properties.
- 2d. The description of soil requiring its use.
- 3d. The best mode of applying it.
- 4th. Some objections to its use.

In the Southern Agriculturist, August, 1829, are contained some valuable remarks on this subject by the Hon. W. B. Seabrook, who seems to have labored more, to acquire knowledge concerning it, than any other writer.

Mr. Seabrook sent two descriptions of mud to be analyzed by Dr. Joseph Johnson; the one, turf mud, the other, taken from below the surface: the following was the result:

Analysis of turf,	480 grains.
Impure sea salt,	197 grains.
Sand,	129 grains.
Clay,	105 grains.
Vegetable matter,	49 grains.

480

Analysis of mud,	480 grains.
Impure sea salt,	120 grains.
Sand,	171 grains.
Clay,	141 grains.
Vegetable matter,	45 grains.

480

These were specimens of the *best mud*, and that which was most free from sand; yet it seems that the salt and sand were the *chief* components, the sand existing in *almost an equal quantity* with the salt: the vegetable matter, did not comprise *one-ninth* part of the *whole*, and clay, between one-third and one-fourth. Mr. Seabrook, upon the result of this analysis, remarks—"This analytical view, goes far to confirm my opinion, that the most valuable benefits of marsh mud, are derivable from its *saltness property*." We agree with this observation, though we likewise believe, the clay, the vegetable matter, and the sand, all may contribute to benefit the plant: the clay, by stiffening a loose soil; the vegetable matter, by enriching, and the sand, by separating and diffusing the salt through the mud, may thus act mechanically, and prevent the application of the salt, in too concentrated a state, which would thus prove too stimulating for the powers of the plant.

We come now to that part of our subject, which refers to the description of soil to which salt mud is best adapted. We have already shown, that its acts, by its clay stiffening, by its vegetable matter enriching, and the salt, exciting: hence, light sandy land, are those which would seem to require its use, and the weight of authority is in favor of such soils. We beg leave again to quote from Mr. Seabrook's valuable remarks. In the Southern Agriculturist, September, 1829, he observes, "Mud may be denominated a *cold manure*, and better fitted for *high than low lands*." The circumstance which induces him to style mud a "cold manure," is the attraction for moisture, displayed by the salt which it contains, and this is another property, which renders it applicable to high, loose, and dry soils. From this attraction, peculiar benefit is derived in droughts:—but as it is not given to us, to anticipate the future, this circumstance is liable to cause as much evil as benefit; for if a mudded crop thrive in a dry season, excessive rains will most probably blight the hopes of the planter, if the soil in both instances is the same, and similarly treated. Our seasons are becoming every year, more variable and less to be depended on; we would respectfully offer this as another reason for proceeding cautiously in the use of mud.

We have given an analysis, and described the soil for which salt mud is best suited. It has been shown, that the proportion of vegetable matter is very minute. We believe this to be the only ingredient which is taken up into the system of the plant, and so, contributes to its support: in other words, we would distinguish this by the term, manure or aliment; the salt, it seems, acts differently, it stimulates the vessels of the plant to a brisker circulation, but does not supply them with more fluids.

The inference we would draw is—that salt mud is not sufficient, applied *alone*, to ensure a crop from a poor soil. The salt may stimulate the organs of the plant, and by its attraction for moisture, supply it with water from the surrounding atmosphere, and thus it may even flourish for a time; but are you not straining the organs of the plant, to an unusual or forced exercise of its functions? Nay, worse; giving these organs a greater capacity for nourishment, and yet, withholding it? As well may you endeavor to acquire health and vigor, by correcting a meagre diet with intoxicating liquors—you had far better leave the soil to its own resources; the body to its scanty fare.

We would advise, in this case, the application of *well rotted* vegetable matter, cow pen, or any other rich manure, in addition to the mud, and say, without hesitation, that labor, so well bestowed, will not be in vain. It appears from others, who have had experi-

ence on this subject, that in order to derive the full benefit of mud, it should be properly pulverized, before its incorporation with the earth: care should be taken not to cover it in large lumps, as it has been known to continue in that state unaltered for years. Judge Johnson advises that it be dug early, that the heaps be not more than a hand-barrow contains, and placed between the old beds in August or September. He lays some stress upon the quantity; we will use his own words—"It must be distributed in bodies not exceeding the contents of a hand-barrow. On the other hand, if scattered about in small bodies, it bakes in the sun, and becomes too hard and dry for the wind, sun, rain or frost, to act upon. When dropped from a hand-barrow, between the rows of an old corn or cotton field, in August or September, the operation is a very neat one. The grass keeps it open, so that the sun and rain decompose it rapidly, and when a heavy rain falls, it washes off a portion of the surface, and the water being checked by this succession of obstructions, a black deposit is perceived all along between the beds. . . . And if the mud be distributed in the same manner in a planted field, a portion of the fertilizing matter is carried to the roots of the plant in the water, and produces an obvious effect on its growth and color."

It has been questioned, whether mud is not equally applicable to stiff lands, and instances are cited both for and against. It seems that the only conclusion to be drawn, where facts are stated of so opposite a character, is the mud used, must have been of a different description, or differently applied. Mr. Seabrook condemns the practice from his own experience, while several other very respectable and highly intelligent planters are its advocates, and likewise ground their opinions on *fact*. We can readily imagine both right, and believe, soft mud, free from clay, charged with vegetable matter and sand, with as little salt as possible, most applicable to stiff lands. The best situations for procuring this kind of mud are, those portions of the plantations most remote from the sea, as near the shore as practicable, and if possible, where the soil is richest, and immediately after a rain. If these precautions are observed, the mud will be obtained supplied with the vegetable matter washed down by the rain, and with sand from the same source, while it will in some measure, be freed from salt. We apprehend, that more than a very small proportion of salt, in stiff lands, will injure them; not from the mere nature of salt itself, but from its affinity for water. In ordinary seasons, these lands are sufficiently retentive of moisture for the healthy condition of the plant. In uncommonly dry seasons mud applied without discrimination, to every variety of soil, may promote abundant crops, and we imagine this may be another mode of accounting for the different and conflicting opinions of planters, with regard to its utility on stiff lands: some having been favored with uncommonly dry: others having had to contend with remarkable wet seasons. There are certain conditions of soil, not yet fully understood, which tend to create diseases in this valuable plant; they are not discoverable by any outward signs. The diseases are rust and blue cotton. For the former, the use of mud has been highly recommended. With regard to the "blue cotton," Mr. Seabrook has given three such remarkable instances of its decided efficacy, that we cannot forbear again quoting from him. He says, "Mud is an effectual safeguard, against what is technically called, 'blue cotton.' The peculiar property of the soil, which generates this disease, I am ignorant of; but so destructive are its effects, that several plantations on this island, that were at one time but of little value, in relation to the production of cotton, are now among the most profitable, from the steady application of marsh earth. The lands of Daniel Townsend, Ephraim M. Seabrook, jun. and William M. Murray, were notoriously distinguished for raising blue, or fruitless cotton plants. From Mr. Townsend, whose information on the subject of this com-

munication, is very extensive, I learn that he has used marsh mud loam, almost exclusively, for fifteen years, with the most decided advantages, and that a stalk of cotton of the character alluded to, is seldom to be seen in his fields, except where some other manure has been applied. The plantations of Mr. Seabrook, and Capt. Murray, afford signal evidences of the power of salt mud to neutralize those properties of the soil, which are hostile to the bearing of the cotton plant. On a section of his field, from which the sad experience of its former proprietor, had induced him to believe, he would be presented in the fall, with naught but an assemblage of luxuriant, but podless stalks, Mr. Seabrook, the last year, strewn one hundred and twenty cart loads of mud to the acre. The result was, the unexpected harvest of three hundred and twenty pounds to the acre. Captain Murray, the past season, tried the following experiment, with a view to ascertain whether the soil of the place he had recently purchased was adapted solely to the culture of provision crops. He selected twelve contiguous acres, three of which he assisted with mud; the others were unmanured. The mudded portion of the field realized the average product of two hundred and twenty pounds to the acre, the residue, about twenty-five pounds. Many other instances, equally strong, of the extraordinary efficacy of this manure, in remedying the disease to which I have invited your notice, could be adduced." Mr. Seabrook remarks, that salt mud adds to the strength and fineness of the cotton.

Permit us to conclude with one or two observations. No one who will take the trouble, of an impartial inquiry on this subject, can arrive at any other conclusion, than, that great benefit is to be derived from a judicious use of this substance: but there would seem to be an invariable rule of Providence, which has seldom, if ever, been deviated from of blending good with evil. Nothing is capable of conferring benefit or pleasure, but we may likewise extract from it, evil or pain: that which cannot harm, cannot benefit, but is altogether useless and inert. We should not, when desirous of arriving at certainty, in any matter, rely wholly on one side, but pay strict attention to both parties, and without partiality, judge for ourselves; thus shall we be possessed of undisguised truth.

In accordance with these sentiments, by which we have endeavored to be guided, we deem it our duty in laying before you the result of our labor, to advise you, not to proceed incautiously in the use of this substance, and throw it profusely over your fields. It is active, and in proper quantities, capable of doing much good but improperly applied, it will assuredly create much harm. As the chief virtue of salt mud seems to reside in the salt, all the injuries incidental to an excessive use of the one, ought reasonably to be expected from a similar use of the other. Many instances may be brought forward, to show that salt in excess, will not only destroy all vegetation, but render the soil barren for years.

In conclusion, the application of salt mud may render the chance of a crop more uncertain; if it meets with a dry season, the crop will be large, but should excessive rains prevail, a short crop may contribute to shake the faith of the mud manurers.

(From the Southern Agriculturist.)

ON THE CULTURE OF CORN.

Dear Sir,—When I saw the annexed paragraph in a newspaper, I was induced to write to Mr. Megginson, and inquire his mode of cultivating a corn crop. I received, in answer, the subjoined letter, which I place at your disposal; with my best wishes for the success of your very useful journal. Respectfully, your obedient servant, J. CLARKE.

"Mr. A. B. Megginson, manager upon a plantation in the county of Amherst, (Va.) raised the present season, on one acre of land, one hundred and eight and an half bushels of sound corn, and two of inferior quality. This acre received no other cultivation than

the rest of the field. The same manager had frequently made one hundred bushels of sound corn, and some of inferior, upon an acre of land on Pleasant's Island, in the county of Gloucester."

Buckingham, Va. March 24, 1852.

MR. J. CLARKE:

Sir,—Your favor of the 24th of January, I have just received, and am sorry it was so long reaching me, I, however, lose no time now, in giving you the information asked for, which I do with pleasure in my lame manner.

I prepare my land for corn in the fall, if I can, with a two horse plough, by throwing it up into beds of five feet, (which is the distance I cultivate my corn rows apart, either upon high or flat land;) but, if out of my power to do it then, at any time before I commence planting. I drill altogether with a machine, or what we call a "corn planter," made for that purpose, and leave the corn thin or thick, according to the strength and moisture of the land. If remarkably rich, and sufficiently moist, I leave a stalk every six or eight inches apart, if less rich, but still of good quality, about twelve, and I think, two feet to one stalk, far enough apart for any land that will produce at all. In moist land I plant on the bed, and in dry thirsty land, in the sink or finishing furrow, by throwing down a little of each bed into the sink with a small plough, for the purpose of getting a bed to plant in. I plough our broken land horizontally, in order to hold as much moisture as possible for the crop, and also, to preserve it from washing rains. If I break it up in the fall, I plough it again just before I plant it, by reversing the beds, as I think it very important to prepare the land well before we plant it. After planting, I keep it well stirred with a coultter plough; (three fixed in a frame, for one horse to pull, that will always finish a row at the third, and very generally the second furrow, until it gets large enough to bear the dirt from the mold-board, I then commence giving it my last ploughing with a small turning-plough, by running two furrows on each side of the corn, first, and then commencing again, and finishing out the middle of the row. As soon as it will do to thin, hoe it, and then thin it, and if it should require it, hoe it again. I think we should stop working corn, as soon as it will shade the earth enough to keep other growth down, as I think it injurious to break the roots after the stalk is generally jointing.

I commence planting about the 10th of April, or as soon as I think the earth sufficiently warm to bring the seed up regularly, that it may all grow up together, as replanted corn is so much shaded by the first (upon my thick plan) that it seldom produces any thing.

For corn, we generally manure in the drill, owing to the scarcity of the article, or I should prefer its being spread over the land regularly; stable manure, or litter from a farm yard, well rotted, is very strong, and should not be put in the drill too plentifully, as it has a tendency to fire the crop. I put a great or small quantity, according to the strength of the manure. I am very little acquainted with lime or plaster, as a manure.

I conclude my remarks, by wishing you success, upon the mode of cultivation. Very respectfully, your obedient servant, A. B. MEGGINSON.

N. B. I use the Farmer Plough altogether, No. 53, for two horses, No. 1, for one horse.

A HINT TO FARMERS.—I have known much distress averted by stripping the husks from the ear, when the crop of corn had been touched with frost, so that the mold consequent upon frost was thereby prevented, and a tolerable crop secured by the ear becoming hard in that situation. I have thought this hint to farmers might be useful, particularly as the backward state of the crops of corn this year exposes it to early frosts of autumn.—Troy Budget.

(From the Southern Agriculturist.)

CULTURE OF ENGLISH PEAS AS A FIELD CROP.

Mr. Editor,—In a previous number I promised to communicate to you my impressions respecting the cultivation of green (or English) peas as a field crop. One of the great drawbacks to this, or any other kind of cultivation which is not connected with cotton, corn, rice, or potatoes, is the want of a suitable enclosure made previously to the season for the sowing or planting of these extra crops. Such is the perfection of the charming climate of South Carolina, that there is no month in the year, but what some valuable seed may be germinated, to the great advantage of man and beast. As an evidence of this fact, we have only to advert to the Gardener's Calendar in our Almanacs, and see the great variety of valuable plants and seeds, suggested for garden use, which can, with very little more difficulty, be enlarged and made more extensive in our fields. I planted, about the 6th of February last, seven or eight varieties of English peas, amounting to three bushels, in the following manner: A furrow was run with the plough, and the manure on each side of the bed where the cotton stalks of the last year were left standing; the peas were then drilled and lightly covered with the plough, a hand following with a hoe, to dress such places as have been left uncovered. These required a weeding and one hauling with the hoe. They were gathered 26th day of May in the following manner: The vines were pulled up, and suffered to dry two days in the field; they were then taken home in sheets, and threshed, which required little labor, as they shelled with great facility. A severe frost on the 17th of March injured those which were in blossom, materially. Those which were not so forward, escaped the effects of frost. The land was high, poor, and sandy; the season remarkably dry and cold. The consequence was that I made but twenty bushels to four acres. Sections of the patch which diverged to low, flat soil, bore abundantly, and, there is no doubt, I should have made twenty bushels to the acre, had this kind of soil been selected.

This experiment has afforded me the following conclusions, that English peas can be planted at that period of the year, when scarcely any thing else will repay the labor. They require little time for gathering and preparing for food. I boil them as the common cow pea; and the hands expressed regret when they ceased as an allowance. The vines, also, were greedily devoured by the stock, and at that season of the year, too, when something in the way of fresh hay is very desirable. There is no doubt but that flat lands are best adapted to their growth in the spring of the year, as, in nine cases of ten, there is a drought in April and May.

Of all the varieties which I planted, the dwarf pea seemed most fit for field cultivation, as their stems near the roots were so well covered as not to be injured by dry and cold winds, as was the case with the tall peas, which, likewise, invariably suffered when not supported by a cotton stalk. In planting the dwarf pea, I would sow them in drills, (the land being previously prepared by the plough,) from ten to twelve inches apart. I believe that there is no grain crop which will admit of harvesting as early in the year, and in so short a time, from being planted, at this season, as English peas.

To preserve the seed for another year, it is necessary to spread them in the sun for three or four days. Then pour them in a dry cask which is strongly flavored with spirits, otherwise they will soon be devoured by an insect familiar to every one who has ever attempted to save English peas seed.*

About the first of March or last of February will be early enough to sow these peas, as they suffer less by our late frosts, which injure them while in blossom. Yours, respectfully, EXOTIC.

* The casks should be, then, as tightly closed against air as though it contained spirits.

HORTICULTURE.

(From the Genesee Farmer.)

VEGETABLE PHYSIOLOGY.

I have been highly delighted, and withal much instructed, in perusing the notice of a course of lectures, on botany, as connected with horticulture, recently delivered by Professor LINDLEY, before the London Horticultural Society. I have seen nothing better calculated to excite a taste for this delightful science, or to render it subservient to the wants of man. I hope soon to see the entire series advertised by our enterprising booksellers. There are some facts laid down by the Professor, in the analogy which he draws between the blood of animals and the sap of plants, that may be new, and I presume not uninteresting, to a portion of your readers, and which I take the liberty to send you, with some remarks, for publication.

The necessity of alternating crops in husbandry, has been imputed to a power in plants of electing from the soil the peculiar food adapted to their wants; and it has been supposed, that as one crop ordinarily exhausted the specific food of its species, a succession could not follow without deterioration, or a fresh supply to the soil of the needful pabulum. But the Professor says, that plants absorb aqueous particles indiscriminately; "that the moisture absorbed by the spongioles having ascended to the leaves, and been elaborated there into sap, returns, depositing by the way, all the nutritious particles it has acquired; and at last throws off the residuum, in the shape of a spongy excrement, at the root. These excretions, consisting only of what the plant has rejected, are of course unfit for the support of other plants of a similar nature, and may be said (in relation to such) to poison the soil."

This goes to strengthen the argument in favor of alternating crops, in field as well as garden culture. It applies with particular force to the transplanting of trees; and indicates the propriety of removing all the soil from their roots, and even of washing them, instead of transplanting them with a ball of earth, as is often the case, particularly with evergreens. I have heard of the practice being successfully adopted, observing the precaution to prevent the drying of the fibres, so as to destroy their functions. But as evergreens have always a foliage to sustain, the ball of earth becomes in a measure necessary to preserve the spongioles (mouths) it contains, till new ones are formed, or those injured by the removal resume their functions.

The experiments employed to illustrate the deposit of vegetable excrementitious matter, served to show another remarkable analogy between animals and vegetables. The same poisons, says the Professor, act nearly in the same manner on animals and vegetables. "All poisons are either corrosive or narcotic; or, in other words, act either by over-stimulating or relaxing the system; and these different effects have been shown clearly, by various experiments, to be produced on plants. One branch of a common berberry was steeped in a solution of corrosive sublimate, and another in a decoction of opium, when, in a short time, the vessels of the one were found to have become turgid, and of the other relaxed, the natural irritability of the plant being, in both cases destroyed." To this susceptibility in plants to the deleterious effects of poisons, I have no doubt we shall be able hereafter to trace the new maladies which injure our fruit trees. I consider that the disease which has destroyed many of our plum trees, has been proved to originate with an insect, which punctures the branches, and injects a subtle corrosive poison into the sap vessels. The precaution, when it has been adopted, of cutting off and burning the affected parts, as soon as they are discovered, and of thereby destroying the germ of the insect, has had a happy effect in diminishing the evil.

While employed in these remarks, I have met with the observations of M. MACAIRE, inserted in the

French Journal of Science and Arts, upon this branch of physiology, which coincide with those above quoted from Professor LINDLEY. "A certain portion of the juices," says M. Macaire, "which are absorbed by the roots of plants, are, after the salutiferous portions have been extracted by the vessels of the plant, again thrown out by exudation, from the roots, and deposited in the soil. It is probable the existence of this exuded matter, which may be regarded, in some measure, as the excrement of the preceding crop of vegetables, that proves injurious to a succeeding vegetation. It has been compared to an attempt to feed vegetables upon their own excrements. The particles which have been deleterious to one tribe of plants cannot but prove deleterious to plants of the same kind, and probably to those of some other kinds, which they furnish nutriment to another order of vegetables."

Admitting what these eminent physiologists seem to have demonstrated, that plants throw off by their roots whatever is deleterious to their health, the conclusion drawn from the fact does not seem rationally to follow.—I mean, it does not result, that the cause of the deterioration of the second, is to be found in the deposits made in the soil by the first crop. Wheat, in particular, is found to deteriorate on ordinary soils, and on few will it bear repeating oftener than once in three or four years; yet there are soils which will bear cropping with this grain for many successive years without diminution of product. Such is particularly the case in the valleys of the Genesee and of the St. Lawrence. Here, upon their theory, most be an annual accumulation of poison, and yet the plant does not seem to be injured by it. This excrementitious of poisonous matter, has, combined with aliment, once passed through the sap vessels of the plant without injury; and why not, combined with the aliment which is constantly preparing in the soil, may it not prove equally innoxious, the second year, to a like plant. I suspect it is not so much the presence of a poison, as the absence of food, which causes the falling off in the product. These gentlemen admit, that although plants cannot elect, in the soil, the food which is adapted to their wants, they can and do retain none other in their system. This is admitting that there is a specific food adapted to each species; and that what is aliment to one kind may prove a poison to another. Is it not rational then to conclude, that as a plant appropriates to itself all the salutiferous or alimentary particles which enter its sap vessels, the subsequent infertility, to this kind of crop is owing to the soil being exhausted of its particular or specific food? The annual application of manures, containing this specific food, is generally successful in counteracting this sterility. The deep alluvial deposits of vegetable and animal matter, which have been accumulating for centuries and to which I have alluded, seem to afford an inexhaustible supply of the specific pabulum of wheat, without any indications of the imaginary poisons. B.

CANKER IN FRUIT TREES.—Various are the causes said to bring on this desolating disease. Bad or wet soil, or subsoil; exposure to cold bleak winds, in high situations especially; stricture of the bark; frost in spring, checking the circulation of the sap; external injuries of different kinds; insects lodging in the cracks and under the old bark; the infirmities of decrepit old age in those varieties long cultivated; improper stocks or improper grafting. The scientific President of the London Horticultural Society thinks that no topical application will do any good, and that the disease is not of the bark but of the wood; (many others are of a very different opinion.) This may frequently be the case; for on removing cankered branches, the very heart may often be found infected and discolored, and the wood, under all the three different barks, rotten and diseased. From actual observation, we have no doubt it proceeds from most all of the above causes, and every precaution ought to be taken to avoid them. —*Id.*

(For the American Farmer.)

NEW CHINESE MULBERRY—COLOR OF COCOONS.

A few weeks ago, a gentleman of my acquaintance brought home with him from Paris, whither he had been on a visit, some beautiful white silk which he shewed me, assuring me at the same time, that all silkworms, fed on the new Chinese mulberry, would produce white silk. I have lately observed, however, in some of the prints, that Dr. *Pascalis* had imported from France, two kinds of silkworms, one producing silk entirely white, and the other kind, silk of a nankeen color. Now I wish to inquire if there may not be some mistake in that matter? and whether it was not Dr. P's white silkworms that happened to be fed on the new Chinese mulberry that produced the silk which I saw?

A. W. INQUIRER.

Remarks by the Editor of the American Farmer.—We are disposed to attribute the color of the cocoons above referred to, to some accidental circumstance. We have had cocoons of all colors from the worms of the common sulphur color variety. We have also had worms that uniformly produce white cocoons. There is a small variety cultivated in Connecticut that are uniformly white. From our experience we are led to believe that the food makes no difference as to the color of the cocoons; and indeed it is of little consequence, as the color is confined to the gum, which, on being extracted, leaves the silk uniformly white—whatever may have been the color of the cocoon.

(From the Southern Agriculturist.)

ON THE CULTURE OF THE TULIP.

[The following extract is taken from a private letter addressed to us; as it contains some excellent directions for cultivating the tulip, we have taken the liberty of publishing it.—*Ed. So. Agr.*]

"I believe you in the south do not understand blooming tulips; at least, I never saw a good one there, when I was in your country some twelve years since. Make a bed four feet wide, and long enough to contain your bulbs set six inches apart each way. The ground must be spaded, and made fine, and rich with vegetable mold. In planting, make a hole four inches deep for each bulb, and two inches diameter; into which put a little white sand—just enough to surround and cover the bulb—so as to prevent its touching the rich mold. Then fill up the holes with the common soil of the bed, covering the bulbs three inches deep. Although tulips are fond of drawing nourishment from rich soil, by means of their radicles, they do not do well if the bulb touches it. They should be planted in December, at the latest—best in October or November.

"When they begin to show bloom, they must be shaded from the hot sun, and protected from heavy rains. This you can do by driving four stakes in the corners of the bed, three feet high, and nailing slats on them over the sides, to enable you to spread a mat over them, which you can roll on and off, in the manner of an awning. Keep off the mat in cloudy weather, and mornings and evenings and nights, but be sure to keep it over them during the hot sunshine. For all this they will pay you in the spring.

"Yours, &c.

GIDEON B. SMITH."

THE BUTTER TREE.—This tree, which the Landers found abundant in the interior of Africa, yields a very savory and nutritious kind of vegetable marrow. The tree is said to resemble the oak. The nut is enveloped in an agreeably pulpy substance, and the kernel is about as large as our chestnut. This is exposed in the sun to dry; after which it is pounded very fine and boiled; the oily particles float, and when cool they are skimmed off and made into little cakes fit for immediate use.

(From the New England Farmer.)

KENRICK'S NEW AMERICAN ORCHARDIST, NEW VARIETIES OF FRUITS, &c.

We have, heretofore, given our opinion of this work, concisely, from a cursory view of its contents; and subsequent perusals confirm our belief in its utility. We shall not, at present, undertake a formal review of the book, but would remark that such a work was much needed, notwithstanding *Thacher's Orchardist*, and other good treatises of the kind would seem, in some manner, to have superseded the necessity for Mr. Kenrick's able production. But the science as well as the arts of horticulture have, of late, made such rapid progress, that a work giving clear and condensed views of the improvements and discoveries made since the publication of any similar treatise must, of course, contain much matter which is comparatively new, as well as useful.

The following, relative to obtaining new and improved varieties of fruits will, we presume, be read with interest by orchardists. Although the opinions and theories, which it advances are not in consonance with those of our correspondent S. M. it may lead to further discussion, and eventuate in the establishment of a correct theory, relating to important objects of culture.

"M. Poiteau, when speaking of the decline of the old French varieties of pears in the vicinity of Paris, and the urgent necessity of a renewal of the kinds has informed us in the *Annals d'Horticulture* for May, 1828, that notwithstanding the unwearied efforts which have been made in that country during several of the latter ages, by their most intelligent cultivators, in rearing new and valuable varieties from the seed; yet such attempts having been conducted on wrong principles have resulted in 'absolute nothingness.' They must, he asserts, look elsewhere for new varieties to replace the old:—*anywhere else but to their own country*—even to America, but more especially to Belgium.

"The same writer further informs us, that the celebrated Duhamel, during the long course of his scientific career, planted the seeds of all the best fruits which were eaten at his table, without being able to produce a single fruit worthy of cultivation.

"Others in that country—as the Alfios, for a succession of generations, have adopted the same course, planting the seeds of the very best fruits with no better success.

"It would thus appear that all the finest varieties of apples and pears having been raised in successive generations of fruit from the original crabbed and worthless origin, that after the improvements has gone on for five or six generations, to the production of perfect fruit, it can be carried no further; that exhausted nature, if urged beyond certain bounds recedes; and a retrograde course commences. For the seeds of the best fruits, which are sown she generally gives back nought but the worthless. In illustration of the truth of this position, M. Poiteau has stated it as a fact, recorded by several authors, that the seeds of the Winter Bon Chretien always produces a detestable fruit. And Mr. Knight has positively asserted that the seed of the *wild pear*, fertilized by the stamens of the blossoms of an ameliorated one, will yield a better fruit than the seeds of an ameliorated pear.

"The mode, however, adopted in Belgium with such wonderful success in procuring new and extraordinary varieties, differs very materially from the process of Mr. Knight; for it appears that they commenced by simply sowing the seeds, not of the best but rather of the most austere and indifferent varieties, for a succession of a few generations, till the perfect sorts are produced."—*Kenrick's Orchardist*, pp. 15, 16.

Again, in treating of the same subject, Mr. Kenrick quotes the following passage from the *Annals d'Horticulture*, for May, 1828:—

"The Belgians give no preference to the seeds of

table fruits, when they plant to obtain new ameliorated kinds. When their plants appear, they do not, like us, found their hopes upon individuals exempt from thorns, furnished with large leaves, and remarkable for the size and beauty of their wood; on the contrary they prefer the most thorny subjects, provided that the thorns are long, and that the plants are furnished with many buds or eyes, placed very near together. This last circumstance appears to them, and with reason to be an indication that the tree will speedily produce fruit. As soon as the young individuals, which offer these favorable appearances afford grafts or buds capable of being inoculated upon other stocks, these operations are performed; the apples on paradise and the pears on quince stocks, to hasten their fructification. The first fruit is generally very bad, but the Belgians do not regard that; whatever it is, they carefully collect the seeds and plant them; from these a second generation is produced, which commonly shows the commencement of an amelioration. As soon as the young plants of the second generation have scions or buds proper for the purpose, they are transferred to other stocks, as were the preceding; the third and fourth generations are treated in the same manner, and until there are finally produced ameliorated fruits worthy of being propagated. M. Van Mons asserts that the peach and apricot treated in this manner, afford excellent fruit in the third generation. The apple does not yield superior fruit before the fourth or fifth generation. The pear is slower in its amelioration; but M. Van Mons informs us, that in the sixth generation, it no longer produces inferior, but affords excellent fruits intermixed with those of middling quality.

RURAL ECONOMY.

(For the American Farmer.)

HICKORY BED-CORDS.

1st mo. 1, 1833.

As constituting a portion of the history of the arts, I was pleased with the notice of HICKORY BED-CORDS by Thomas B. White. I presume this manufacture is exclusively American, as no other country possesses the material except in very limited quantities. I remember to have seen this article in the neighborhood of Philadelphia about the close of the revolutionary war, and since I have resided in the western part of New York, I have purchased hickory ropes for clothes lines of a man who was a native of one of the New England states; this manufacture, therefore, from its being so extensively known, probably originated in an early period of our colonial history.

D. T.

RICE MACHINE.

We mentioned a few weeks since, says the Northampton, (Mass.) *Corrier*, the invention of a machine for cleaning rice from the hull, by some ingenious mechanics of this town. At that time the trial of its capacities had hardly been tested fairly, as it was not perfected in all its parts nor its exact powers graduated. Within a few days, however, a machine has been completed, and all the improvements which experience had suggested been done, and a trial of its powers made in the presence of a large number of our citizens. It performed its task to the admiration of all, and goes by horse, steam, water, or any other power. It works rapidly, cleans the rice in the best possible manner, without, as has been the leading difficulty with all other machines, breaking up the grain. The Patent Office at Washington contains a number of inventions for this purpose, and the premium of \$50,000 has often been claimed, but they all upon experiment, fail of accomplishing the great object successfully. Gentlemen who are familiar with the cultivation of rice, think this machine cannot be otherwise than successful, conferring a benefit upon rice plantations almost incalculable.

MISCELLANEOUS.

(From the Village Record.)

Extract of a letter from a young gentleman, lately of Washington, Ky. now a resident of Jacksonville, Illinois, to a relative in Chester county.

"Jacksonville, Nov. 17, 1832.

"Since I have received your last kind letter, I have been roving about through the western states, in search of a place to make my permanent home. After travelling by land and by water, over mountains and plains, through wildernesses and prairie, I at length stopped here with a view of making this town my residence through life.

"I have seen the whole Mississippi Valley, from the Allegany mountains on the east to the Rocky mountains on the west, and from the lakes on the north to the Gulf of Mexico on the south. I have every where endeavored to examine the soil, water-courses, timber, and opening prospects of this immense region of country. I have studied its history, talked with its earliest inhabitants, witnessed its rapid growth in commercial, agricultural, and political importance. I have mixed with its various classes, learned the manners, peculiarities and prejudices of each section of its territory. I have sought information from all these sources, and found my reward in the abundant fund of practical knowledge they have afforded. I am now in Morgan county, twenty miles east of Illinois river, one hundred miles north of St. Louis, in the most delightful country to be found in this magnificent valley. To attempt a description of its ten thousand agricultural and commercial facilities would be folly in the extreme. It would require the descriptive talents of a Cooper or a Scott, to exhibit in their true colors the fertility of its soil, the beautiful intermixture of its woodland and prairie, its crystal waters and its noble rivers. All visitors properly appreciate its merits, and, as might be supposed, a mighty tide of emigration is rolling in—thousands of people from almost every land. I met with a Pennsylvania farmer at this place, a few days ago, who was highly pleased with the country—his conversation to me was as follows: 'In Pennsylvania we labor hard from the first peep of day in the morning to the last shades of twilight in the evening—we spend much time and money in manuring our fields and working them skillfully—with the sweat of our brows we sow, cultivate and reap, and with all our efforts we can only get a decent competence. Here, in this land of fatness, flowing with milk and honey, the soil is richer than our manure, and too deep to be exhausted by tillage in two centuries; here wheat, corn, and hemp, are produced with so little labor, that they seem to spring up almost spontaneously—here the farmer can raise stock of every description to his heart's content—here are rivers navigable all seasons by the largest steamboats, carrying to the markets of the south, the north and the east, every variety of farming productions—here are enterprising, intelligent, industrious, honest people, increasing in wealth, as it were, by magic—towns, cities and colleges, are rising on every hand. This then is the land for me; here will I bring my substance and my family. My farm in Pennsylvania will sell for what will purchase ten larger and better ones here. I will return to the east, convert my property into money, and bring my wife, my sons, and my daughters, to live and die in this earthly paradise.'

"Such is the country which is now my home; the testimony of one from your own state will certainly be attended to by you. It is my deliberate opinion that such a country exists no where else on the globe. I have made an acquaintance with Mr. Marshall, attorney at law, late of West Chester; he lives about thirty-five miles from this place, in Rushville. My situation is a pleasant one, and my prospects very flattering. Jacksonville contains 1,600 inhabitants, it is the seat of justice of a county containing a population of 18,000;

a very flourishing college is in operation here at present; it is liberally endowed, its funds on bonds amount to \$40,000; the principal edifice is five stories, there are twenty-three dry-goods stores in this town, an elegant brick court house, many fine dwellings, and two good churches.

"Eight years ago there were only four families in the county. What do you think of that? I fear you will not believe the truth."

(From the Staunton Spectator.)

The following exquisite lines were composed by St. Leger L. Carter, Esq. formerly of the Senate of Virginia. The subject was suggested to his mind in the streets of Richmond, by the happy and independent bearing of a wagoner from Augusta, who drives a fine team, and is moreover an excellent model of health and contentedness.

THE WAGONER.

I've often thought, if I were asked,
Whose lot I envied most—
What one I thought most lightly tasked,
Of man's unnumbered host,—
I'd say I'd be a mountain boy;
And drive a noble team—wo hoy!
Wo hoy! I'd cry;
And lightly fly
Into my saddle seat;
My rein I'd slack,
My whip I'd crack—
What music is so sweet?

Six blacks I'd drive of ample chest,
All carrying high the head—
All harness'd tight, and gaily drest,
In winkers tipped with red;
Oh, yes, I'd be a mountain boy,
And such a team I'd drive—wo hoy!
Wo hoy! I'd cry—
The lint would fly—
Wo hoy! Dobbin—Ball!
Their feet should ring—
And I would sing—
I'd sing my fal-de-rall!

My bells would tingle, tingle-ling,
Beneath each bearskin cap—
And as I saw them swing and swing,
I'd be the merriest chap;
Yes, then I'd be a mountain boy,
And drive a gingling team—wo hoy!
Wo hoy! I'd cry—
My words should fly—
Each horse should prick his ear!
With tightened chain,
My lumbering wain
Would move in its career.

The golden sparks—you'd see them spring
Beneath my horse's tread;
Each tail—I'd braid it up with string
Of blue or flaunting red;
So does, you know, the mountain boy,
Who drives a dashing team—wo hoy!
Wo hoy! I'd cry—
Each horse's eye
With fire would seem to burn;
With lifted head,
And nostril spread,
They'd seem the earth to spurn.

They'd champ the bit, and fling the foam,
As they dragged on my load—
And I would think of that distant home,
And whistle on the road;
Oh, would I were a mountain boy—
I'd drive a six horse team—wo hoy
Wo hoy!—I'd cry,
Now, by yon sky,

I'd sooner drive those steeds,
Than win renown,
Or wear a crown,
Won by victorious deeds:
For crowns oft press the languid head,
And health the wearer shuns—
And victory, trampling on the dead,
May do for Goths and Huns!
Seek them who will—they have no joys
For mountain lads and wagon boys.

GINGER NUTS.—As the hunting season is now commencing, we cannot perhaps do better than give a receipt for making gingerbread nuts of fine flavor, as an excellent stomachic for sportsmen. To one pound of the finest flour, well dried, put a quarter of a pound of good fresh butter, and carefully rub it well into the flour; then add of the best Jamaica ginger root, (fresh grated and afterwards pounded and sifted fine,) one ounce; also pine in fine powder, a quarter of an ounce; half a good sized nutmeg, grated or pounded fine, and the same weight of powdered cloves; half a pound of good moist sugar; and fresh lemon-peel chopped fine. Candied orange and citron peel can be added, if their flavors are approved of; and when required to be very

warm and more stimulating—a quality much admired by many—a good pinch of both powdered cardamom seeds and cinnamon bark in powder may be added; and a few grains of very finely powdered cyane pepper can also be used for those who like it. All the ingredients are to be thoroughly and well incorporated, and made into a paste with one pound of the best and purest treacle; and after standing a little time, to be cut into pieces, rolled into round nuts, and pressed flat with the hand; then set on a tin, and baked in a well heated oven. About half a dozen drops of the essential oil of caraway seeds is likewise a good addition, and improves the flavor. In fact, for this purpose essential oils in general, when pure, are more to be depended on than powders; but when used, great care must be taken not to employ them too bountifully, and to procure the best and unadulterated.—*Sporting Magazine.*

Mr. Thomas Monkhouse, of Durham, butcher, has in his possession a turnip of the globe kind, grown by him in a field upon Crossgate Moor, weighing sixteen pounds, exclusive of the top and root, and measuring a yard and an inch in circumference.—*Durham Chronicle.*

METEOROLOGICAL JOURNAL,

For 12th mo. (December,) 1832, kept at Clermont Academy, near Philadelphia, by S. S. GRISCOM.

Day of the month.	Therm. at sunrise.	Clouds at sunrise.	Winds at sunrise.	Remarks, a.m. and at m.		Max. of Therm.	Clouds at 2 1/2, p.m.	Winds at 2 1/2, p.m.	Remarks p.m. and evening.	
				a.m.	m.				p.m.	9, p.m.
1	53	MS.	NW 5	ms; NW 8, 57°		43	MS;	NW 8	32 NW 8	
2	24	C.	NW 4	[at 9		34	CS.	NE 4	50 snow; NE 4	
3	34	MCS.	NE 4			38	CMS.	NW r.	33 MS; NW 3	
4	31	C.	NW 2	41 c; NW 2		43	CMS;	NW 4	39 C; NW 4	
5	32	MS.	NW 2	41 MS; NW 5		41	MS.	NW 4	38 MCS; NW 2	
6	35	CS.	SW 2	44 MS, SW 4		44	C.	SW 4	36 MC; SW 1	
7	33	MC;	SE 3	45 C, MC; SE 3		47	MS;	SE 3	44 MCS. SE 3 cl'ds w.	
8	43	S!	O, E	49 CMS. O. r.		50	MCS.	NE 1 r.	48 MCS. NE	
9	50	MCS. R;	NW 3	51 CMS. r. NW 6		50	MS.	NW 7	43 NW 7	
10	35	C.	NW 1	45 MS, NW 2		47	O.	W 1	33 O	
11	30	S;	0	44 fog;		45	MCS.	W 0	43 MCS. NE 3 r.	
12	45	MCS. R	SW 4	47 MCS. NW 4		48	MCS.	NW 4 mist	42 MCS. NW 3	
13	41	MCS.	SE 1	45 CMS. W 1		45	CMS.	E 1	41 MCS. SE 2	
14	42	MCS.	SW 0	47 CMS. O.		48	MCS.	O r.	45 MCS. E 2 wet mist	
15	45	MCS. R;	NE 5	44 CMS. NE 5 r.		44	MCS.	NE 5 r.	38 MCS. NE 4 r.	
16	37	CS.	W 3	45 CMS. W 1		46	MCS.	E 1	42 MCS. SE 2 r.	
17	42	CMS. R.	SE 3	46 CMS. W 1 r.		47	MCS.	W 3 r.	41 CMS. NW 7	
18	39	CMS.	NW 7	43 CMS. NW 7		35	MS.	NNW 8	38 MS; NW 8	
19	32	MS;	NW 8	36 MS. NW 7 snow.		35	MS.	NW 8	38 MS; NW 6	
20	27	CS.	NW 4	23 MS, NW 5		31	C.	NW 6	26 W 2 CS	
21	19	O.	NW 3	26 C, W 2	21° at 9	30	CMS.	NW 4	21 MS, NW 4	
22	22	MS;	NW 2	27 MS; NW 5		26	MS.	NW 5	19 O NW 2	
23	15	O	NW 1	26 CS, E 1		28	CS.	E 1	27 CS, E 1	
24	19	O	E 1 fog;			35	NC.	O	29 CS. SW 1	
25	33	CS.	O	42 CS; MC; W 1		40	CM;	NW 2	31 O. NW 2	
26	32	CMS.	NE 2 r; sleet	34 CMS. NE 2 r; sleet		36	CMS.	NE 4 r.	37 MCS. NE 4 r.	
27	37	CMS.	W 1 r.	45 CMS. SW 2		44	MS.	NW 3	37 O NW 4	
28	32	CS.	NW 4	37 MS, NW 4		40	O	NW 3	33 O NW 1	
29	27	CMS;	NW 1	39 MS, NW 4		39	MS.	NW 4	29 O NW 2	
30	23	O	E 1	33 O E 1		34	CG.	E 1	31 MS; SE 2	
31	28	C.	E 1 smoky.	42 C; smoky!		45	C; smoky!	O	fog SE 1	

SUMMARY.

Mean at sunrise, 38.68°
Mean at mid-day, 40.84°
Mean for the month, 38.76°
Range, 42°
Warmest day, 9th, 50°
Coldest day, 23d, 21° 5°
Maximum, on 1st, 57°
Minimum, on 23d, 15°
Rain on 10 days.

Snow on 3 days, (very little.)
Sleet on 1 day.
Fair 16 days. Cloudy 15 days.
Wind east, 11 days.
Wind west, 20 days.
Temperature above 55° on 30 days.
Thermometer below 32° on 15 mornings.
Decrease in temperature from last month, 6.39°
Temperature of the month compared with the same month last year, 15.63° warmer.

Prices Current in New York, January 12.

Beeswax, yellow, 18 a 20. Cotton, New Orleans, .11 a 13; Upland, .10 a .11; Alabama, .10 a .12. Cotton Baggins, Hemp, yd., .13 a .21; Flax, .13 a .14. Flax, American, 7 a 8. Flaxseed, 7 bush. clean, 16.00 a 16.50; rough, 15.00 a 15.25. Flour, N. York, bbl., 6.00 a —; Canal, 6.12 a 6.25; Balt. How'd st. 6.25 a —; Rh'd city mills, 6.68 a —; country, 6.06 a —; Alexandria, 6.12 a 6.37; Fredericks', 5.57 a 6.00; Peters', new, 6.00 a —; Rye flour, 4.12 a 4.18; Indian meal, per bbl. 3.75 a —, per hhd. 17.00 a 17.25. Grain, Wheat, North, 1.19 a —; Vir. 1.19 a 1.20; Rye, North, .85 a —; Corn, Yel. North, .73 a .75; Barley, — a 75; Oats, South and North, .45 a .50; Peas, white, dry, 7 bu. 5.00 a —; Beans, 7 bu. 4.00 a 4.00; Provisions, Beef, mess, 8.25 a 8.75; prime, 5.25 a 5.75; cargo, — a —; Pork, mess, bbl. 13.00 a 14.25, prime, 11.25 a 11.75; Lard, .9 a .94.

GRAPEVINE CUTTINGS.

In a few days will be received and for sale at the American Farmer Office and Seed Store, a quantity of cuttings of the CUNNINGHAM AND WOODSON GRAPES. An account of the excellent quality of these grapes, both for the table and wine, will be found in the American Farmer, vol. xiv. No. 33, October 26.—The price of these cuttings is 8 cents each.

Also will be received, at the same time, a quantity of Norton's seedling grape cuttings. These grapes are said to be very superior to most native grapes.—Price 6 cents each.

Also a quantity of rooted vines of the SCUPPERNONG GRAPE from North Carolina. The character of the Scuppernong Grape is too well known to require description. Price, for two year old vines 3 1/2 cents each, one year old 25 cents.

SPLENDID PÆONIES.

Just received and for sale at the American Farmer Office and Seed Store, a few of the POPPY FLOWERING TREE PÆONY, (Pæony arborea papaveracea), and of the TREE PÆONY, (Pæony arborea). To experienced florists it might be needless to say a word about the great beauty of these plants; but the public generally may not be as well informed. A recent publication on horticulture thus describes the tree pæony: "In the gardens of China they cultivate an immense number of varieties of this splendid plant,—some of which are said to be sold as high as a hundred ounces of gold; and in so much esteem it is held by them that it is there called the 'king of flowers.'"—*Price's Treatise on Horticulture*. Of the poppy flowering pæony the same work thus speaks: "The flowers of this plant are single or semi-double, but being of a pure white color, with a purple centre, they combine a delicacy calculated to excite great admiration; it is also more rare than the tree pæony, and it is but a couple of years since Messrs. Prince paid five guineas for a very small plant." Price of the poppy flowering pæony 55¢ each, and of the tree pæony \$2.50 each.

RED ANTWERP RASPBERRY BUSHES.

For sale at the American Farmer Office and Seed Store. Price, 12 1/2 cents each; \$1.25 per dozen; or \$8 per hundred. I. I. HITCHCOCK.

MORUS MULTICAULIS, OR NEW CHINESE MULBERRY.

Superior to all others for Silkworms in these respects: 1st. The stalk is low, and therefore the leaves are more easily gathered than from large trees.

2d. The leaves are large—from ten to fourteen inches long, and from eight to twelve broad, hence much of the usual labor of gathering is saved.

3d. A method of cultivation will be imparted to the purchaser of twenty trees at this establishment, by which he will in three years have a full supply of leaves for any desirable silk establishment.

A few hundred of these trees are for sale at the American Farmer Office and Seed Store, No. 16 South Calvert street, by I. I. HITCHCOCK.

WANTED,

At the American Farmer Office and Seed Store, all kinds of GRASS SEED, CLOVER SEED, and choice Domestic Animals. Apply to

I. I. HITCHCOCK.

BUFFALO BERRY TREE, OR SHEPHERDIA.

A small number of these splendid trees, natives of the Rocky Mountains, and equally desirable for their fruit, and their beauty, have just been received and are for sale at the American Farmer Office and Seed Store, No. 16, South Calvert street. Price \$1 each. Those who want them would better make early application, as the demand is great and the supply scanty.

I. I. HITCHCOCK.

FLOWER SEEDS.

The subscriber has now his assortment of Flower Seeds ready for his customers, and will be happy to receive their orders. A printed list of them is just completed, which will be sent to any person who shall request it by letter (postage paid) or otherwise. These seeds are chiefly the growth of 1892, in the garden of this establishment, and are known to be from very superior flowers. I have several books also on floriculture, which are named in the Flower Seed Catalogue above referred to.

I. I. HITCHCOCK,

American Farmer Office and Seed Store.

AGRICULTURAL IMPLEMENT AND SEED STORE.

J. S. EASTMAN, No. 36 west Pratt-st. keeps constantly on hand a supply of his Patent Cylindrical Straw Cutters of the various sizes, which he will warrant to cut as much, according to their size, and to be decidedly superior in every respect to any similar machine made in this country.

Also, very superior Rag Cutters, for the use of Paper Mills.

Gideon Davis' Improved Patent Ploughs, of all sizes, with wrought and cast shares, and all kinds of castings for those ploughs by the piece or by the ton, as likewise for horse powers, on as reasonable terms as can be had elsewhere.

Wheat Fans, Corn Shellers, Threshing Machines, Harrows, Cultivators, &c. Likewise superior Cast Steel Axes, Hay and Manure Forks, and Scythe Snaths at wholesale and retail. Shovels, Spades, Hoes, &c. &c. and all repairs done at short notice.

Field and Garden Seeds. Such Grass Seeds as are in market will be kept for sale. My assortment of Garden Seeds is not so extensive as advertised by some, but such as I shall offer for sale may be relied on as genuine. The following I could furnish at wholesale, viz: Superior Early York Cabbage, and Long Scarlet Radish Seeds, and Early France Peas, the latter raised by Richard Cromwell, Esq.

STRAW CUTTERS, CORN SHELLERS, &c.

SINCLAIR & MOORE, offer for sale a variety of kinds of Straw Cutters, the Cylindrical of the following sizes and prices, viz. 11 inch box at \$27. 14 inch at \$45. 16 inch at \$55. 20 inch at \$75. The smallest (price \$37) will cut 300 bushels of straw one inch long per day, and is precisely the kind spoken of in the following note, addressed us by the proprietor of the American Farmer:

GENTLEMEN: Baltimore, October 2, 1892. John G. Eliot, for whom we bought one of your Straw Cutters last year, writes me thus, under date of Sept. 20, 1892:

"The Cutting Knife answers well. I would not be without it for the price of two."

I have much pleasure in communicating the above, for I think the instrument well deserves the compliment thus bestowed on it. Yours, truly,

SINCLAIR & MOORE, Balt. I. I. HITCHCOCK.

The second size has cut, in the vicinity of Baltimore, seven hundred bushels per day, with manual power.—The third and fourth are capable of much more, particularly with horse or water power. These machines may now be expected to go into more general use, as they can be furnished at a more moderate price.

Also circular knife self-feeding boxes at \$20. Common Dutch box at \$7.50, and smaller size at \$5.

CORN SHELLERS, with vertical cast iron wheels, very durable and easily kept in order, which shell with great ease and rapidity, price \$20. CAST STEEL AXES, with a general assortment of AGRICULTURAL IMPLEMENTS AND GARDEN SEEDS.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—There is not the slightest change in any article of produce. The harbor continues open, but as it was expected to be closed before this time, every body made arrangements for it, and consequently, there is little business doing. Howard street flour from wagons continues to command \$5.50. Sales from stores are made at quotations.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 3.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 5.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a —.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 23 hds. Md.; and 36 hds. Ohio.—Total 59 hds.

Flour.—best white wheat family, \$6.75 a 7.25; super Howard-street, 5.62 1/2 a —; city mills, 5.50 a —; city mills extra 5.62 1/2 a —.—Corn Meal bbl 3 50; —GRAIN, bestred wheat, 1.10 a 1.14; white do. 1.16 a 1.20; —CORN, white, 60 a 62; yellow, 60 a 62; —Rye, 72 a 73; —OATS, 40 a 41.—BEANS, 75 a 80.—PEAS, 65 a 70.—CLOVER-SEED — a —.—TIMOTHY, — a —.—ORCHARD GRASS 2.00 a 2.25.—Tall Meadow Oat Grass 2.00 a 2.50.—Herd's, 75 a 87 1/2.—Lucerne — a 37 1/2 lb.—BARLEY.—FLAXSEED 1.50 a 1.62.—COTTON.—Va. 10a 12 1/2; Lou. 12 a 14—Alab. 10 a 18.—Tenn. 10a 12 1/2; N. Car. 10a 12 1/2; Upland 10 a 13.—WHISKEY, hds. 1st p. 50 a —; in bbls. 32 a 32 1/2.—WOOL, Washed, Prime or Saxony Fleece 45 a 50; American Full Blood, 38 a 42; three quarters do. 33 a 33; half do. 30 a 33; quarter do. 28 a 30; common 25 a 28. Unwashed, Prime or Saxony Fleece, 25 a 30; American Full Blood, 22 a 25; three quarters do. 20 a 22; half do. 18 a 20; quarter do. 16 a 18; common, 16 a 18 HEMP, Russia, ton, \$200 a 210; Cotton, dew-rotted, 6 a 7c lb. water-rotted, 7 a 8c.—Feathers, 37a 38; —Plum Paris, per ton, — a 5.68, ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 75.00 a 85.00.—Prime Beef on the hoof, 4.00 a 4.50.—Oak wood, 4.00 a 4.50; Hickory, 3.50 a 6.00; Pine, 2.25.

CONTENTS OF THIS NUMBER.

Editorial; Farmer of Lagrange; American Silk, Filatures; An Immense Sheep—Caution to Mushroom Eaters—Some Observations on Marl, in reply to Mr. Ruffin—Sidney Weller on the Culture of Ruta Baga—Report of a Committee on Marsh Mud as a Manure for Cotton, read before St. Andrew's Agricultural Society—On the Culture of Cotton—A Hint to Farmers—On the Cultivation of English Peas as a Field Crop—Vegetable Physiology—Canker in Fruit Trees—New Chinese Mulberry, Color of Cocoons—G. B. Smith on the Cultivation of the Tulip—The Butter Tree—Kenrick's New Orchardist, New Varieties of Fruit, &c.—Hickory Bed-cords—Rice Machine—Some Account of Jacksonville, Illinois—Poetry, The Wagoner—To make Ginger Nuts—Large Turnip—Samuel S. Grison's Meteorological Journal for December—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

Special Agents for the American Farmer.

The following persons are authorized to act as Agents for the American Farmer in their several places of residence:

Boston,	John B. Russell, N. E. Farmer Office.
New-York,	J. H. Gourlie, of the Post Office.
Philadelphia,	D. & C. Landreth, 55 Chestnut street.
Washington, D. C.	B. E. Freymuth, Marble Court.
Petersburg, Va.	P. Thompson.
Raleigh, N. C.	Coale & Co.
Camden, S. C.	Joseph Coleman.
New Orleans,	Joseph Gales & Son.
Nashville, Tenn.	P. Thornton, Post Master.
Natchez, Miss.	Wm. McKean.
Port Gibson, Miss.	Eichbaum & Norrell.
Salem, N. J.	Fredrick Staunton.
General Agent for the State of Maryland, T. B. Breann.	Passmore Hoopes.
	H. H. Elwell.

77 DIRECTION OF LETTERS.—Address all BUSINESS letters concerning the Farmer, the store, or the agency, to the proprietor, "I. I. HITCHCOCK, Baltimore, Md."

Printed by J. D. Tooy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, JANUARY 25, 1833.

CULTURE OF HEMP, BY MR. CLAY.—We would request the attention of agriculturists to the excellent paper on the culture and preparation of hemp, in the present number of the Farmer, from the pen of the Hon. Henry Clay. The plan recommended by Mr. Clay, of stacking and sweating, is getting more generally into favor in the west, and appears to answer an admirable purpose. We have seen a good deal of the hemp, thus prepared. About three years ago, we received a lot of it from Kentucky, which we sold at a price approaching to that of the best Russia. In color, strength of fibre, and softness, it appears fully equal to Russia hemp; but whether it will prove, on a fair trial, to be equal in durability, we believe is not certainly known, though so far every thing seems to indicate equality, if not superiority, even in this respect. It is supposed, by some, that there is an acid in the fibre of hemp, which must be got rid of, or it will cause the ropes made of it to rot internally, (similar to the dry rot in timber); and hence that hemp prepared by any of the new and expeditious processes will not answer for durable ship rigging; and that the processes of water rotting and stacking and sweating, (according to the plan of Mr. Clay,) either destroy or neutralise this acid. The experiment mentioned by Mr. Clay, in which the ropes were found rotten, seems to favor this idea; or rather to confirm the opinion, that there is some principle (whether an acid, an oil, or something else, it matters not) that requires to be corrected by processes similar, as to time and application, to stacking and sweating and water rotting.

We ought to have mentioned, that, in a letter to the Editor of the American Farmer, of recent date, Mr. Clay reiterates the opinion that the sweating process is superior to all others. He has discovered nothing, since the date of his paper, by which the method of culture and management of hemp, as therein given, can be improved; nor has his subsequent experience required him to expunge or amend any part of the process.

AGRICULTURE.—Gov. Marcy, of New York, in his message to the legislature on the 2d inst. alludes as follows to the farming interest.

“From the consideration of these important subjects, I pass to one of greater and more general interest, lying more directly within the reach of our legislative action, and demanding from us a particular attention. Agriculture was undoubtedly the primitive pursuit of men in a civilized state of society, and seems to be indicated to them by Heaven as their best employment. Vigor of body and purity of mind are eminently enjoyed by the husbandman. Without meaning to disparage any class of men, or to deny a due measure of public virtue to all, history and experience warrant the assertion, that the cultivators of the soil have ever been among the first to cherish, and the last to abandon, free institutions. It is not, however, for this reason that agriculture presents peculiar claims for your guardianship. It not only furnishes occupation to a much greater portion of our citizens than any other department of labor, but it supplies the materials for all others. It must be regarded as a matter of some surprise, that an employment in which so great a number of the human family are directly engaged, to which all look for their daily bread, and upon which commerce, manufactures and the mechanical arts—indeed, all the various pursuits of mankind—so necessarily depend, should not have risen to a still higher consideration than it has yet attained, and received from those entrusted with the power of legislation more liberal aids.

“The numerous agricultural societies organised in the several counties in this state in consequence of

our legislation, flourished for a season, then languished, and are now generally dissolved. The interest of agriculture was, to a considerable extent, promoted by these societies. The contributions from the public treasury, distributed principally in premiums, gave a sudden impulse to agricultural industry, and induced many laudable efforts among farmers, not only to excel in their productions, but to introduce valuable improvements in husbandry; yet it has been questioned whether the benefits thus obtained, were of such an extensive and abiding character, as might have been realized by a different application of the funds derived from the government. Agriculture is a science, as well as an art: and both must be systematically cultivated, and widely disseminated, before it would attain a high degree of improvement. The general intelligence and individual enterprise of those devoted to the pursuit, have carried the art as far, perhaps, as could reasonably be expected without a better knowledge of the sciences connected with it. With a salubrious climate and fertile soil; with extensive regions but partially brought under the power of cultivation; with rising manufactures and a flourishing commerce, demanding the surplus products of husbandry; with a population full of enterprise, and distinguished for native skill and practical talent; we may reasonably expect great advantages from the cultivation and diffusion of the sciences connected with the art. The subject appears to me to be in every respect worthy of your attention and to merit a liberal encouragement.

CULTIVATION OF BEES.—A valuable article on bees will be found in the present number of the Farmer. The author of it, in a subsequent number of the Genesee Farmer, adds the following remarks:

“I am sorry to say that there are many vulgar prejudices current among the community, relating to bees, that cannot be too soon dispelled. Some believe that none can ever prosper with them unless a hive is found by them in the woods, or is given to them. They also suppose that a death in the family owning the bees is sure death to them; and many other equally foolish and absurd notions prevail. All that is necessary to be done is, to use such discretion in the management of bees as one would apply to any important subject, and success will probably follow.”

THE LOCUST.—*Robinia pseudo-acacia-viscosa-glutinosa.*—The writer of the following is mistaken in ascribing the remarks alluded to, to the editor of the Genesee Farmer. The whole article was copied, as he will see by a reference to the paper, from the third volume of the Memoirs of the Board of Agriculture of the state of New York, and the remarks were by the editor of that work.

We have ever been in favor of the cultivation of the locust, both for fencing and other purposes; and as it is impossible to say whether it will be injured by the worm in this, as it has been in the eastern sections of our country, people should not give over its cultivation for fear of an evil which may never happen. When speaking of the locust for timber, we would be understood as meaning the *Robinia pseudo-acacia*, or yellow locust, as the *viscosa* is not as rapid in its growth, nor as valuable when grown, for timber, but as an ornamental tree it is superior to the other, as it produces a greater profusion of flowers.

MR. EDITOR: Buffalo Nursery, Dec. 26th, 1832.

In the 47th number of the Genesee Farmer, I notice an article on the subject of planting chest-nuts for fencing timber, followed by some editorial remarks in regard to the locust tree, making an objection to planting the locust in your vicinity on account of their being destroyed by the insect. I am happy to inform you, sir, that the objection in regard to the insect preying upon the wood of the locust,

will not apply to this section of country. I have been engaged many years in the cultivation of the locust, in connection with fruit and ornamental trees generally, and have now several thousands of them growing in the nursery and other grounds, and have never had any destroyed by the depredations of the insect. That the yellow locust (*Robinia pseudo-acacia*) is one of the most valuable trees in our country, can hardly admit of a doubt.

In some of the Atlantic states, the people are alive to the importance of their cultivation, and I trust the time is not far distant when the attention of our western agriculturists will be turned to the subject. For durability of timber, they are said to be nearly equal to the red cedar. For luxuriant growth, they are hardly to be surpassed, growing from the seed the first season, from three to six feet high; as an ornamental tree, they are truly worthy of attention. Some have been of the opinion, that the locust would not survive our severe winters, as the ends of the limbs are not unfrequently killed by the hard frosts of winter. But the last winter must forever put to silence this opinion—a winter, more severe than I have ever before experienced, during a residence in this town of more than twenty-five years. A few of the younger trees were killed down to the ground, but they generally endured the winter much better than the plum, peach, pear, nectarine, apricot, or weeping willow, as not a few of the above named trees were totally destroyed, root and branch.

In regard to the glutinous locust, *Robinia glutinosa*, a serious objection exists to their cultivation in this place, on account of the wood being so very tender and brittle, that they are extremely liable to be broken by the force of the winds.

BENJ. HODGE, JR.

Genesee Farmer.]

DRAINING.—As our winter has thus far been warm and wet, it may be well for farmers to examine their wheat fields, and see whether there are not places on which water collects so as to cover the wheat; if so, such places should be drained without delay, or the wheat will be destroyed. When grass grounds are so situated as to receive the drainings from roads or yards, care should be taken to keep such drains open in order to distribute the water as equally as possible.—Genesee Farmer.

ERGOT OR SPURRED RYE.—We caution those who are in the habit of using rye for bread, to examine it well before it is ground, to ascertain whether it contains any ergot or spurred kernels; if so, they should be carefully separated, as they are very poisonous, and the smallest possible quantity has a deleterious effect upon the system. When the spurred kernels are separated, they may be reserved to kill flies with, as a sweetened decoction of them is the best preparation for that purpose that we have ever tried.

Genesee Farmer.

MARKING INK.—Dr. Pajet Laforêt, of Paris, uses the following indelible ink for marking linen:—Take acetate of manganese crystalized of a reddish color one ounce; dissolve this salt in three ounces and a half of distilled water. When necessary to make use of this solution do as follows:—dissolve in distilled water one ounce six grains of prussiate of potash, and gum arabic in powder two grains; imbibe the part of the linen intended to be marked with this solution; let it then dry, and polish it with bone or polished ivory, and write on it with a pen dipped in the acetate of manganese. When the writing is dry touch the letters with a pencil dipped in a solution of caustic, potash, and distilled water. After a few moments the characters will assume a beautiful black color, which is unalterable. In order to see the traces of the letters more distinctly, the ink may be colored with some very fine powdered indigo.

AGRICULTURE.

(From the Western Agriculturist.)

HEMP.

Kentucky, October, 1830.

Sir,—Having promised you some account of the method of culturing and preparing hemp in this state, I now proceed to redeem it. I shall endeavor to describe the general practice of the cultivators, without noticing all the deviations of particular individuals.

The district of country in which the plant is most extensively cultivated, is the Elkhorn region around and near Lexington, which derives its name from a stream discharging itself into the Kentucky river, whose branches are supposed to resemble the horns of an elk. It is also produced in considerable quantities in the counties of Jefferson, Shelby, Mercer, Madison, Clarke, Bourbon and Mason. The soil of that region is a rich, deep vegetable loam, free from sand and with but little grit. It lies on a bed of clay, interspersed with small fragments of iron ore, and this clay in its turn reposes on a mass of limestone lying many feet in depth in horizontal strata. The surface of the country is generally undulating. The rich land, (and there is but little that is not rich,) in this whole region, is well adapted to the growth of hemp, where it has not been too much exhausted by injudicious tillage. The lands which produce it best, are those which are fresh, or which have lain some time in grass or clover. Manuring is not yet much practised. Clover is used in lieu of it. Lands which remain in clover four or five years without being too constantly and closely grazed, recover their virgin fertility. The character of the soil in the other counties above mentioned, does not vary materially from that in the Elkhorn district.

The preparation of the ground, for sowing the seed, is by the plough and horses, until the clods are sufficiently pulverized or dissolved, and the surface of the field is rendered even and smooth. It should be as carefully prepared as if it were for flax. This most important point, too often neglected, cannot be attended to too much. Scarcely any other crop better rewards diligence and careful husbandry. Fall or winter ploughing is practised with advantage—it is indispensable in old meadows, or old pasture grounds intended for producing hemp.

Plants for seed are ordinarily reared, in a place distinct from that in which they are cultivated for the lint. In this respect, the usage is different from that which is understood to prevail in Europe. The seeds which are intended to reproduce seeds for the crop of the next year, are sowed in drills about four feet apart. When they are grown sufficiently to distinguish between the male and female stalks, the former are pulled and thrown away, and the latter are thinned, leaving the stalks separated seven or eight inches from each other. This operation is usually performed in the blooming season, when the sexual character of the plants is easily discernible; the male alone blossoming, and, when agitated, throwing off farina, a yellow dust or flour which falls and colors the ground, or any object that comes in contact with it. A few of the male plants had better be left, scattered through the drill, until the farina is completely discharged for an obvious reason. Between the drills a plough is run sufficiently often to keep the ground free from weeds and grass; and between the stalks in each drill the hoe is employed for the same object. The seed plants are generally cut after the first smart frost, between the 25th September and the middle of October, and carried to a barn or stackyard, where the seeds are easily detached by the common thrall. They should be gathered after a slight, but before a severe frost; and, as they fall out very easily, it is advisable to haul the plants on a sled, and, if convenient, when they are wet. If transported on a cart or wagon, a sheet should be spread to catch the seed as they shatter out,

After the seeds are separated, the stalks which bore them being too large, coarse, and harsh, to produce lint, are usually thrown away: they may be profitably employed in making charcoal for the use of powder mills. In Europe, where the male and female plants are promiscuously grown together in the same field, both for seeds and for lint, the male stalks are first gathered, and the female suffered to remain growing until the seeds are ripe, when they are also gathered, the seeds secured and lint obtained, after the rotting, from both descriptions.

After the seeds are threshed out, it is advisable to spread them on a floor to cure properly and prevent their rotting, before they are finally put away for use the next spring. Seeds are not generally used, unless they were secured the fall previous to their being sown, as it is believed they will not vegetate, if older; but it has been ascertained that, when they are properly cured and kept dry, they will come up after the first year. It is important to prevent them from heating, which destroys the vegetating property, and for that purpose they should be thinly spread on a sheltered floor.

The seeds—whether to reproduce seeds only, or the lint—are sowed about the same time. Opinions vary as to the best period. It depends a good deal upon the season. The plant is very tender when it first shoots up, and is affected by frost. Some have sowed as early as the first of April; but it is generally agreed, that all the month of May, and about the 10th of it especially, is the most favorable time. An experienced and successful hemp-grower, in the neighborhood of Lexington, being asked the best time to sow hemp, answered immediately before a rain.—And undoubtedly it is very fortunate to have a moderate rain directly after sowing.*

When the object is to make a crop of hemp, the seeds are sown broadcast. The usual quantity is a bushel and a half to the acre; but here again the farmers differ, some using two bushels or even two and a half. Much depends on the strength and fertility of the soil, and the care with which it has been prepared, as well as the season. To these causes may be ascribed the diversity of opinion and practice. The ground can only sustain and nourish a certain quantity of plants; and if that limit be passed, the surplus will be smothered in the growth. When the seeds are sown, they are ploughed or harrowed in; ploughing is best in old ground, as it avoids the injurious effect of a beating rain, and the consequent baking of the earth. It would be also beneficial, subsequently to roll the ground with a heavy roller.

After the seeds are sown, the labors of the cultivator are suspended, until the plants are ripe, and in a state to be gathered—every thing in the intermediate time being left to the operations of nature. If the season be favorable until the plants are sufficiently high to shade the ground (which they will do in a few weeks, at six or eight inches height,) there is a strong probability of a good crop. When they attain that height, but few articles sustain the effect of bad seasons better than hemp.

It is generally ripe and ready to be gathered about the middle of August, varying according to the time of sowing. Some sow at different periods, in order that the crop may not all ripen at the same time, and that a press of labor, in rearing it, may be thus avoided. The maturity of the plant is determined, by the evaporation of the farina, already noticed, and the leaves of the plant exhibiting a yellowish hue: it is then generally supposed to be ripe, but it is safest to wait a few days longer. Very little attentive observation will enable any one to judge when it is full-

[* Would it not be well to soak the seed in water a few hours previous to sowing? We have found this to answer nearly as good a purpose as rain after sowing, with all seeds with which we have tried it. The vegetation of mangle wozel is wonderfully accelerated by it.—Ed. Am. Farmer.]

ly ripe. In that respect it is a very accommodating crop: for if gathered a little too soon, the lint is not materially injured, and it will wait the leisure of the farmer some ten days or a fortnight after it is entirely ripe.

Two modes of gathering the plants are practised; one by pulling them up by the roots, an easy operation with an able bodied man, and the other by cutting them about two inches (the nearer the better) above the surface of the ground. Each mode has its partizans, and I have pursued both. From a quarter to a third of an acre, is the common task of an average laborer, whether the one or the other mode is practised. The objections to pulling are, that the plants with their roots remaining connected with them, are not afterwards so easily handled in the several operations which they must undergo; that all parts of the plant do not rot equally and alike, when exposed to the dew and rain; and, finally, that before you put them to the brake, when the root should be separated from the stalk, the root drags off with it some of the lint. The objection to cutting is, that you lose two or three inches of the best part of the plant nearest the root. Pulling, being the most ancient method, is most generally practised. I prefer upon the whole, cutting—and I believe the number who prefer it is yearly increasing. When pulled, it is done with the hand, which is better for the protection of an old leather glove. The laborer catches twenty or thirty plants together, with both hands, and by a sudden jerk, draws them without much difficulty. The operation of cutting is performed with a knife, often made out of an old scythe, resembling a sickle, though not so long, but broader. This knife is applied much in the same way as the sickle, except that the laborer stoops more.

Whether pulled or cut, the plants are carefully laid on the ground, the easier the better, to cure—which they do in two or three days, in dry weather. A light rain falling on them whilst lying down is thought by some to be beneficial, inasmuch as the leaves, of which they should be deprived, may be then easier shaken off or detached. When cured, the plants are set up in the field in which they were produced, in shocks of convenient size, the roots or but ends resting on the ground, and the tops united above by a band made of the plants themselves. Previous to putting them up in shocks, most cultivators tie the plants in small hand bundles of such a size as that each can be conveniently held in one hand. Before the shocks are formed, the leaves of the plants should be rapidly knocked off with a rough paddle or hooked stick. Some suffer the plants to remain in these shocks until the plants are spread down to be rotted. Others, again, collect the shocks together as soon as they can command leisure, (and it is clearly best) and form them into stacks. A few farmers permit these stacks to remain over a whole year, before the plants are exposed to be rotted. I have frequently done it with advantage, and have at this time two crops in stalks. By remaining that period in stalks, the plants go through a sweat, or some other process that improves very much the appearance, and, I believe, the quality of the lint, and this improvement fully compensates the loss of time in bringing it to market. The lint has a soft texture and a lively hue, resembling water rotted hemp; and I once sold a box of it in the Baltimore market at the price of Russia hemp. In every other respect, the plants are treated as if they were not kept over a year.

The method of dew-rotting is that which is generally practised in Kentucky. The lint so spread is not so good for many purposes, and especially for rigging and ships, as when the plants have been rotted by immersion in water, or, as it is generally termed, water-rotted. The greater value, and consequently higher price, of the article, prepared in the latter way, has induced more and more of our farmers every year to adopt it; and, if that prejudice were subdued, which every American production unfortunately en-

counters, when it is first introduced and comes in competition with a rival European commodity. I think it probable that, in a few years, we should be able to dispense altogether with foreign hemp. The obstacles, which prevent the general practice of water-rotting, are, the want of water at the best season for the operation, which is the month of September; a repugnance to the change of an old habit; and a persuasion which has some foundation, that handling the plants, after their submersion in water during that month is injurious to health. The first and last of these obstacles would be removed by water-rotting early in the winter, or in the spring. The only difference in the operation, performed at those seasons and in the month of September, would be, that the plants would have to remain longer in soak before they were sufficiently rotted.

The plants are usually spread down to be dew-rotted, from the middle of October to the middle of December. A farmer who has a large crop on hand, puts them down at different times for his convenience in handling and dressing them. Autumnal rotting is more apt to give the lint a dark and unsightly color, than winter rotting. The best ground to expose the plants upon is meadow or grass land, but they are not unfrequently spread over the same field on which they grow. The length of time they ought to remain exposed, depends upon the degree of moisture and the temperature of the weather that prevail. In a very wet and warm spell five or six weeks may be long enough. Whether they have been sufficiently rotted or not is determined by experiment. A handful is taken and broken by the hand or applied to the brake, when it can be easily ascertained, by the facility with which the lint can be detached from the stalk, if it be properly rotted. If the plants remain on the ground too long, the fibres lose some of their strength, though a few days longer than necessary, in cold weather, will not do any injury. If they are taken up too soon, that is before the lint can be easily separated from the woody part of the stalk, it is harsh, and the process of breaking is difficult and troublesome. Snow rotting, that is when the plants, being spread out, remain long enough to rot, (which however requires a greater length of time,) bleaches the lint, improves the quality, and makes it nearly as valuable as if it had been water-rotted.

After the operation of rotting is performed, the plants are again collected together, put in shocks or stacks, or which is still better, put under a shed or some covering. When it is designed to break and dress them immediately, they are frequently set up against some neighboring fence. The best period for breaking and dressing is in the month of February and March, and the best sort of weather, frosty nights and clear thawing days. The brake cannot be used advantageously in wet or moist weather. It is almost invariably used in this state out of doors and without any cover, and to assist its operation, the laborer often makes a large fire near it, which serves the double purpose of drying the plants and warming himself. It could not be used in damp weather in a house without a kiln or some other means of drying the stalks.

The brake in general use is the same hand brake which was originally introduced, and has been always employed here, resembling, though longer, than the common flax brake. It is so well known as to render a particular description of it, perhaps, unnecessary. It is a rough contrivance, set upon four legs, about two and a half feet high. The brake consists of two jaws with slits in each, the lower jaw fixed and immovable, and the upper one moveable, so that it may be lifted up by means of a handle inserted into a head or block at the front end of it. The lower jaw has three slats or teeth made of tough white oak, and the upper two, arranged approaching to about two inches in front, and in such manner that the slats of the upper jaw play between those of the lower. These slats are about six or seven feet in length, six inches in depth, and about two inches in thickness in their

lower edges: they are placed edgewise, rounded a little on their upper edges, which are sharper than those below. The laborer takes his stand by the side of the brake and grasping in his left hand as many of the stalks as he can conveniently hold, with his right hand he seizes the handle in the head of the upper jaw, which he lifts, and throwing the handle and stalks between the jaws, repeatedly strikes them by lifting and throwing down the upper jaw. These successive strokes break the woody or reedy part of the stalks into small pieces or shavings, which fall off during the process. He assists their disengagement by striking the handful against a stake, or with a small wooden paddle, until the lint or bark is entirely clean, and completely separated from the woody particles.

After the above operation is performed the hemp may be scutched to soften it, and to strengthen the threads. That process, however, is not thought to be profitable, and is not therefore generally performed by the grower, but is left to the manufacturer, as well as that of beating and heckling it. Scutching is done by the laborer taking in his left hand a handful of the lint, and grasping it firmly, then laying the middle of it upon a semi circular notch of a perpendicular board of the scutching frame, and striking with the edge of the scutch that part of the lint which hangs down on the board. After giving it repeated strokes, he shakes the handful of lint, replaces it on a notch, and continues to strike and turn all parts of it, until it is sufficiently cleansed, and the fibres appear to be even and straight.

The usual daily task of an able-bodied hand at the brake is eighty pounds weight, but there is a great difference not only in the state of the weather, and the condition of the stalks, produced by the greater or less degree in which they have been rotted, but in the dexterity with which the brake is employed. Some hands have been known to break from 150 to 200 pounds per day. The laborer ties up in one common bundle the work of one day, and in this state it is taken to market and sold. From what has been mentioned, it may be inferred, as the fact is, that the hemp of some growers is in a much better condition than that of others. When it has been carelessly handled or not sufficiently cleansed, a deduction is made from the price by the purchaser. It is chiefly bought in our villages, and manufactured into cotton bagging, bales, and other kinds of untarred cordage. The price is not uniform. The extremes have been as low as three, and as high as eight dollars, for the long hundred—the customary mode of selling it. The most general price during a term of many years, has been from four to five dollars. At five dollars it compensates well the labor of the grower, and is considered more profitable than any thing else the farmer has cultivated.

The most heavy labor in the culture of hemp, is pulling or cutting it, when ripe, and breaking it when rotted. This labor can easily be performed by men. Various attempts have been made to improve the process of breaking, which is the severest work in the preparation of hemp. A newly invented machine was erected for that purpose on my farm six or eight years ago, to dress hemp by dispensing with rotting altogether, similar in structure to one which was exhibited about the same time at Columbus, during the sitting of the Ohio legislature. It was worked by horse power, and detached the lint tolerably well, producing a very fine looking article, equalling in appearance Russia hemp. A ton of it was sold to the navy department, which was manufactured into rigging for the ship of the line, the North Carolina, prior to her making a voyage of three years in the Mediterranean. Upon her return, the cordage was examined and analyzed; and although its exterior looked very well, it was found, on opening it, to be decayed and affected somewhat like the dry rot in wood. I considered the experiment decisive; and it is now believed that the process of water or dew-rotting is absolutely necessary, either before or after

the hemp has been to the brake. There is a sappy or glutinous property of which it should be divested, and that is the only process that has been hitherto generally and successfully employed to divest it.

An ingenious and enterprising gentleman in the neighborhood of Lexington, has been, ever since the erection of the above mentioned machine, trying various experiments, by altering and improving it, to produce one more perfect, which might be beneficially employed on rotted hemp, to diminish the labors of the brake. He mentioned the other day that all of them had failed; that he had returned to the old hand brake, and that he was convinced that it answered the purpose better than any substitute with which he was acquainted. I observe Mr. H. L. Barnum has recently advertised a machine, which he has constructed for breaking and dressing hemp and flax, which can be procured at the establishment of Mr. Smith, in Cincinnati. I most cordially wish him success; but the number of failures which I have witnessed, during a period of thirty years, in the attempts to supersede manual labor by the substitution of that of machines, induces me to fear that it will be long before this desideratum is attained.

The quantity of net hemp produced to the acre, is from 600 to a 1000 weight, varying according to the fertility and preparation of the soil and the state of the season. It is said that the quantity which any field will produce, may be anticipated by the average height of the plants throughout the field. Thus—if the plants will average eight feet in height, the acre will yield 800 weight of hemp, each foot in height corresponding to a hundred weight of the lint.

Hemp exhausts the soil slowly, if at all. An old and successful cultivator told me that he had taken thirteen or fourteen successive crops from the same field, and that the last was the best. That was probably however owing to a concurrence of favorable circumstances. Nothing cleanses and prepares the earth better for other crops (especially for small grain or grasses) than hemp. It eradicates all weeds, and when it is taken off, leaves the field not only clean, but smooth and even.

The rich lands of Ohio, Indiana, and Illinois, are, I have no doubt, generally well adapted to the cultivation of this valuable plant; and those states enjoy some advantages for the cultivation of it, which this does not possess. Their streams do not dry up as much as ours, and they consequently employ better than we can, the agency of water, in the preparation of it. Their projected canals, when completed, will admit of its being carried to the Atlantic capitals at less expense in the transportation than we can send it. On the other hand the unfortunate state of slavery among us, gives us, at present probably a more certain command of labor than those states have.

I am, with high respect, your obedient serv't.

HENRY CLAY.

(From the Albany Argus.)

HINTS TO FARMERS.

Westerlo, Dec. 12, 1832.

PRELIMINARY.—Now that the bustle of election, and the shouts of the victors, have somewhat subsided; our crops secured, and the bleak winds of December have driven the husbandman from his fields to his fireside, I propose, Mr. Editor, to devote an occasional evening to the entertainment, and I would find hope to the improvement, of your agricultural readers; provided you are disposed to second my efforts by publishing what I may chance to write: For as yet I feel the wish, without being conscious of the ability, either to instruct or entertain them.

My essays shall never be tediously long. They may sometimes be practical, sometimes theoretical, and perchance, sometimes political; but partaking neither of personal or party politics.

You have now my proposition, sir; and I shall consider you as according to it when you publish these

preliminary remarks, and shall proceed without delay to fulfil my task. B.

No. 1.

The adapting crops to the soil and market, are among the first considerations which present themselves to the discreet farmer. The same soil will produce a profitable crop of one kind, may not repay the labor of cultivating another. The hills and mountains that make the richest pastures, may beilly adapted to the production of grain. And the same farm product that is profitable to the farmer in the vicinity of towns or navigable waters, may be wholly unprofitable in a district remote from them. In newly settled districts, where the opportunities of interchange and marketing are precarious, it becomes in a measure necessary, that the farmer should adapt his husbandry to the immediate wants of his family, and produce his own bread, meat and clothing. Like causes often render it necessary that he should also be his own mechanic—as carpenter, shoemaker, &c. Distance, bad roads, and the want of means, leave him no other alternative. But in oldsettled districts, where the facilities of intercourse and trade are abundant, considerations of economy suggest a wiser course—that the farmer should apply his labors to such objects as will ensure him the best profit.

If we look to our fields and woods, we shall see that the natural products vary in different soils; that many trees and plants which spring up spontaneously in clayed grounds, are not to be found in those which are sandy, and vice versa; that some are peculiar to wet and others to dry grounds; and yet that there is a constant tendency to alternate or change—new species of trees and plants taking the place of other species which have been felled or have died. This is not the result of chance; but it is in accordance with the law of nature, which has endued plants with different habits and wants, and provided in different soils the food best suited to those habits and wants respectively. It is analogous to what we see in animals—almost every class of which, as the ox, the dog, the hog, &c. has its peculiar food. Those who would profit from the works of infinite wisdom, therefore, will do well to study the aptness of their soils for particular crops, and to select those for staple culture, which promise the best reward.

Heavy and cold grounds are found to be most congenial to wheat, oats, timothy, peas, &c.; light and warm soils to corn, barley, rye, and turnips; moist grounds to potatoes and fibrous rooted grasses; dry grounds to clover, lucerne, turnips and other tap-rooted plants. Yet all these crops fail, or are comparatively worthless, on lands habitually wet. Hence it is of the first importance, in order to obtain good tillage crops, or the fine nutritious grasses, upon wet lands, first thoroughly to drain, and if flat, to ridge them. The farmer who undertakes to raise all kinds of crops upon one kind of soil, misapplies his labors. He had better confine himself to those which make the best return, sell the surplus, and buy with a part of the proceeds that for which his neighbor's soil is better adapted than his own. If his land will yield per acre twenty-five bushels of wheat, and only twenty-five of corn, he had better raise more wheat and buy his corn; for the corn cost him double what his wheat crop does; and is, withal, but a little more than half as valuable. If it will not produce good barley, let him forego the culture of that grain, and if his situation is near market, he should raise more grain, vegetables and fruit, and less stock.

The expense of transporting his surplus produce to market, is an important consideration to the farmer. A bushel of wheat is worth to the grower in Chenango, less than to the grower in Albany, by the expense of its transportation to market, which may be two shillings, or twenty-five per cent. A bullock, on the contrary, may be as profitably fattened by a farmer in Otsego as one in Westchester, the expense of driving him from Otsego to New York being coun-

terbalanced by the enhanced value of his feed, and of the land which produces it, in Westchester. Upon the banks of the Hudson, a bushel of potatoes is worth from two to four shillings; while their value, for market, in the interior, is scarcely half this; because they will not bear distant transportation, and find a precarious market at home. While again, the wool, cheese, butter, cattle, horses, hogs and sheep, from the hills of Delaware or Lewis, from the cheapness of conveyance or transportation of these articles, and the relative cheapness of lands, are able to compete successfully in the market, with like products from the counties of Dutchess and Orange.

From this view of the subject it would seem to result as a general rule, that farmers contiguous to markets or navigable waters will best consult their interests, by confining their labors, so far as regards their marketable products, to tillage crops, hay and fruits; and that it would comport with the policy of those more remote, to rely upon cattle and sheep husbandry as the main source of wealth. These suggestions derive force from the wise provisions of Providence, in adapting the valleys to grain, and the hills and mountains to the subsistence of flocks and herds. B.

HORTICULTURE.

(From the New England Farmer.)

AMELIORATION OF FRUITS.

MR. FESSENDEN: Berlin, Ct. Dec. 24, 1852.

Will you permit me to make a few suggestions and remarks in your paper on the ideas that have been advanced upon fruits and fruit trees, and particularly the amelioration or introduction of new fruits. In the 8th volume of the N. E. Farmer, p. 221, was published a memoir by Professor Poiteau, containing what appeared to be considered as a new discovery in relation to the production of new varieties of fruit.—It was translated by the able and accomplished President of the Massachusetts Horticultural Society, to whom may I be allowed to pay a passing tribute of respect, and to express the hope that he may not relinquish the delightful scenes of the garden, to mingle in the stormy arena of political life. Although the talents of Gen. Dearborn qualify him to shine in any sphere, yet, may he not rather leave the maintenance of the great principles and interests of our government to the Websters and Everetts, and let his be the more peaceful, exalted and enduring fame of Duhamel, of Evelyn, of meek Isaac Walton, of Knight and Van Mons. Having mentioned Isaac Walton, allow me to grace the pages of your journal with a quotation from Wordsworth's Ecclesiastical Sketches, in which Walton's biographical pieces are extolled in some of the sweetest strains to be found in the compass of English poetry.

"There are no colors in the fairest sky
So fair as these. The feather whence the pen was
shaped

That traced the lives of these good men
Dropped from an angel's wing. With moisten'd eye
We read of faith and purest charity
In statesmen, priest and humble citizen.
Oh, could we copy their mild virtues, then
What joy to live, what blessedness to die!
Methinks their very names shine still and bright,
Apart like glow worms in the woods of spring,
Or lonely tapers, shooting far a light
That guides and cheers,—or seen like stars on high,
Satellites turning in a lucid ring
Around meek Walton, heavenly memory."

To return to the subject of fruits. Notwithstanding the authority in support of the views of Professor Poiteau, I cannot perceive the correctness of the principles or reasoning on which they are based. He maintains (if I correctly understand him,) that in order to produce the best varieties of fruit, particularly pears, that instead of sowing the seeds of the best

varieties we should, on the contrary, sow the seeds of the poorest and most austere sorts; and, as a reason for this practice asserts, "that it is only progressively and slowly that she" (nature) "grants us what we demand of her, while she receives back, and immediately again causes to re-enter her domain, the ameliorated fruits which we," &c. In support of this doctrine he appeals to the results of nature in this country, particularly, and likewise to the practice of Van Mons, and other Dutch Pomologists.

As to the results of nature in this country, whenever the origin of improved varieties of fruits, is known, it has been, I believe, generally derived from the ameliorated varieties, and when not known, has generally been ascribed to the same source. Neither does the practice of Van Mons, as far as I have learned it, bear him out in his new views. In one statement I have seen of the process of Van Mons in raising new ameliorated fruits, he is asserted to take the seeds promiscuously, without regard to the quality of the fruit. He indeed says, according to another account, that the seeds of the new varieties are more likely to produce fruits of good quality than the seeds of the best old established kinds, but this if true, may be explained upon another principle, which I shall presently state, much more rational than that adopted by Professor Poiteau. Indeed, does not the doctrine of Professor Poiteau carry an absurdity in its very face, for on his theory, when a species of fruit has become improved to a certain degree by successive ameliorations, it immediately returns by reproduction to its original austerity. Nay, he further requires us to believe that all our cultivated sorts have arrived at that particular (and of course the same) point of amelioration, the contrary of which we well know; and of course upon his theory those which have not arrived at this point should continue to improve by reproduction, and thus destroy the practical inference which he deduces from his theory, or rather disprove the facts from which he incoherently draws his theory. It is at war also with the analogy of other modes of vegetable and animal existence in which it is a general law that like produces like. What should we think of a gardener who should direct us to save the seeds of the poorest vegetables to plant and sow instead of the best. It is contrary to the opinions of distinguished writers on vegetable physiology and economy. Sir Humphrey Davy, in his Agricultural Chemistry, remarks, "A hundred seeds of the golden pippin will all produce fine large leaved apple trees bearing fruit of a considerable size, but the tastes and colors of the apples from each will be different, &c. All, however, will be much more perfect than those from the seeds of a crab, which produces trees all of the same kind, and all bearing sour and diminutive fruit."

"That the seeds of young and healthy varieties will be more likely to produce good fruit than those of old and decayed varieties of the same quality "reposes upon well attested analogies" and is doubtless true.—This is distinctly affirmed by Mr. Knight, and it is also asserted by a writer in your paper, vol. 7, p. 28, to be the opinion of Mr. Van Mons, and it is probably the ground of his extraordinary success, connected with the discovery that a product of a tree the first year of its bearing affords no fair criterion of the future merit of the fruit. This doctrine will explain the opinion of Van Mons before adverted to, that the seeds of new varieties are more likely to produce good fruit than the seeds even of the best old established sorts.

The variation of fruits produced from seed, affords an interesting subject for speculation to the horticulturist and vegetable physiologist, and is well worthy of careful examination and more extended experiment. From all the well attested facts that have come to my knowledge, I am inclined to believe that nature acts by no fixed rules in the production of varieties of the same species. By some it is supposed to be caused by an admixture of the pollen of different

varieties, which causes the off-spring to vary from the parent, but if this were the case, how did the first varieties originate? There is probably a difference in the tendency of different varieties to break into other varieties, as we know there is in the species, and this may account for the facts that have led persons to suppose that the seedling would produce the same fruit as the parent were there no admixture of the pollen. Every one knows that the fruit of a seedling peach is much more likely to produce fruit similar to that of the parent than that of the apple. Wm. R. Prince, Esq., a high authority on such subjects, in describing a certain kind of peach, states that it possesses the quality of producing very nearly the same fruit from the seed.

It will be seen that I have rather intimated my belief in the theory of Mr. Knight, concerning the deterioration of fruits by age. As however it is a matter of great practical importance to cultivators of fruits and fruit trees, I could wish, notwithstanding the subject was formerly discussed at considerable length in your columns, to see the opinions of some of the most distinguished cultivators, together with such additional facts as might be adduced in support of them. It is generally believed in this part of the country that what is here called the Bell pear (which I suppose to be the same with the Summer Bon Chretien) is nearly run out, as it seldom produces any good fruit, and this is the fact, as well of the young as of the old trees.

Why is it that the Kentish morello, or common cherry, thrives so badly and seldom produces any fair fruit? Is it owing to its having been propagated from suckers, or is this also one of the varieties approaching the pithiness of old age? I observe, however, they produce much better in the more recently settled parts of the country.

Although this communication has extended to an unexpected length, yet I cannot dismiss the subject without referring to the facts, shown by an examination of it that are of practical importance to the cultivators of fruits from the seed and these are, to sow the seeds of varieties known to be young and vigorous; and other circumstances being the same, viz. age, vigor of growth, &c. to prefer the seeds of good fruits, especially of large and fair kinds, to those of an opposite quality; and not to be discouraged by the first product not answering your expectations, but to wait a year or two more, for the fuller development of the qualities of the fruit. Engrafting the seedling on an older stock likewise appears to hasten the production of fruits. Attention is also to be paid to the varieties sown, as it is rendered quite probable that seedlings of some varieties of all fruits will approximate more nearly to the parent than of others.

M. S.

RURAL ECONOMY.

(From the Genesee Farmer.)

CULTIVATION OF BEES.

As I have lately undertaken the cultivation of these useful insects, and having succeeded fully to my expectations upon the plan that I have adopted, I think that a few hints on the subject, drawn from my own experience, may not be unprofitable. I obtained last winter, Doctor Smith's little Treatise on Bees, and was so well pleased with his observations, that I determined at once to enter upon their cultivation.—Accordingly, I obtained two good hives early in March, and removed them into the garrets of two separate buildings. One into a three story brick store in the compact part of the town fronting the north, and the other into my dwelling house, situated in the more scattered and open situation, and fronting the east.—As I have managed them rather differently, I will relate the history of each; and, as I conceive, in order to fully understand the matter, the failures, and the reasons of them, should be related, as well as the

successful part of the experiment. In my commencement I had one failure, and it was caused by the neglect of laying down one simple fact in the treatise I have read; for of all that I had heard on the subject, I had never learned that *bees will not fly in the dark*.

I have assumed the garret plan as the best; that is, housing the bees in the highest part of the dwelling or out house. The advantages of this plan over any other, I conceive to be these:

They are thus kept perfectly dry, comfortable and healthy.

They are out of the way of disturbance from the family and other annoyances, which often interrupt their labors. Mine have so far been uniformly good natured, having as yet never stung any of the family.

They are more convenient to approach, either to obtain their honey or for inspection.

I have adopted the plan of keeping them in a large box or hive, rather than that of letting them go at large in the garret, as having them under better control than if they were in the open room. Now for the history of the swarm in the brick building:

I made a gallow, by nailing some strips of boards on the rafters, across which I laid a wide board. This was placed about four feet from a large door, through which were bored half a dozen holes of 14 inches diameter. The room, of course, was quite dark, no light coming in except from these holes. I set the hive, one of the common wooden kind, on this board, leaving a space sufficient for them to light upon in front of the hive, very simply supposing they could fly well enough from the door back and forth to the hive inside. In a short time, as the warm weather commenced, the bees came out in great numbers and played around the door in the air. But in a few days they disappeared, and as they ceased to fly at all during the succeeding fine weather, I was led to examine the hive. It was almost empty of inhabitants, not more than a gill of bees being scattered among the comb, in which was several pounds of honey. I soon found out that, although the bees could find their way from the hive through the door into the air, yet, for want of a conductor, they could not find their way back again to the hive. Of course, in this adventure, I was bankrupt. But I purchased another hive and commenced again.

I then altered my gallow, and removed it close to the door, and laid a board across it which came up snug to the door directly at the lower edge of the holes. By this operation, the bees could walk directly from their hive to the open air and take wing. I then placed the hive about fifteen inches back from the door. The hive was very populous and lively.—They immediately went to work, and as the season progressed, greatly increased in numbers. The hive was soon filled to overflowing; but as the room was entirely dark, they showed no disposition to swarm, but commenced building comb on the outside of the hive. I then took the hive that had failed, cleaned it of the comb, and set it in the rear of the uninhabited hive, as near as it could be placed, and raised them both on little blocks about half an inch high, so that the bees could have free access to both. They immediately commenced operations in the empty hive, and in a very few days made several tiers of beautiful white comb, and stored it with honey. They still had no disposition to swarm, and increasing so rapidly in numbers that I feared they would be unmanageable, I determined to alter my plan and get them in a box. I accordingly made one six feet long, one foot high, and one foot wide, with two partitions inside, making three rooms, with communications from one to the other. (See description of the first hive.) These rooms hold upwards of a bushel each. Through the top in each room is a hole three inches in diameter, to communicate with other hives which may be set on the top. This large new hive I placed on a new gallow below the old ones, about a foot from the door, through which I bored a new set of holes, seven

in number, and laid a smooth planed board between the bottom board of the hive and the door, so that nothing should interrupt their passage. Now, to remove the hive with such an enormous quantity of bees, and so heavy with honey, was no small labor.—But it must be done. I obtained the assistance of an experienced bee-keeper, in the common way, to assist me, and with the aid of thick gloves, and binding up our faces, we commenced the work. It was about the middle of a hot day in July, and the bees were out all over the hives and board. We first took the spare hive, which they had partially filled, and placed it over the room at one end of the new one. We then, with great caution, removed the board on which the remaining one stood to the new hive, and placing one end of it on the top, lifted the old hive carefully on to the centre of the box, and placed it over the hole in the top. We were slightly stung in the operation, but the bees, after being properly placed, soon became settled. We then left them, and the next day, with some common lime mortar and a trowel, I plastered all around the base of the old hive, so that no avenue of escape was open except through the new one. The other hive that had been partially filled, I closed in the same manner.

I now had two old hives placed over two of the rooms in the new one; all one family, with open communication to each part. The entrance from the door was common to each room. The hole through the top of the vacant room was covered with a board lid made for that purpose. The bees still kept at work with great industry, increasing enormously. I think it was the most numerous hive I ever saw. In less than a month, the main apartment under the old hive was completely filled down with comb and honey, being in quantity upwards of a bushel. They still kept at work in the other hive, but towards fall entirely quit it, and went with the others to the main establishment. About the beginning of October, I took off the spare hive. It was entirely free from bees, and had almost thirty pounds of the finest white honey. Finer I never saw. As the bottom board to the large new hive was hung on the back side with butts, and held up by iron hooks and staples in front, I could let it down at any time, and see the progress they made. The bees are so numerous, that in order to make sure of preserving them through the winter, I have left the old hive upon the other for this winter, and shall not remove it till next summer, when I intend to drive the bees all into the large one. The quantity of bees is now so great that they cannot all get into the old one, although it will hold a bushel. I calculate that there are equal to three good swarms in it.

My plan of operation now is, to keep the large hive as the main establishment for the dwelling, habitation and breeding place of the bees; being capable of holding about six ordinary swarms. Every year I can place hives or boxes over the separate apartments, in which can be taken fifty or sixty pounds of honey each. So long as the bees have room to labor, they will not be apt to swarm, and if they increase beyond the capacity of this large hive, I can put them into a still larger one.

OPERATION OF THE SECOND HIVE.

This was placed in the garret of my house near a glass window. The room was of course light.—While the weather was cold, it was all well; but the first warm day, the bees issued out quite freely; as the sun shone through the glass, they buzzed against it in great quantities, and not being able to get out, instead of going back to the hive, the stupid things staid about the window, and in the course of a day or two when I went up to visit them, found full a quart of them dead on the floor. So much for not knowing enough to keep glass windows out of a bee house. I now took out the sash, and closed up three-fourths of the window with tight boards, leaving plenty of room at the bottom for their entrance to the hive. I made

a kind of gallows like the one before described, and set the hive upon it, placing a board from the hive to the window-sill to facilitate their passage out and in, a distance of about two feet. This hive was a small one when I obtained it, and was now reduced by losses to about half its original numbers. As summer came on they began to increase, and to carry in bee bread and honey to the hive. In short, they were, although small, a thriving industrious community.—They increased rapidly, so much so, that I immediately constructed a large new hive, on the Charles-hope plan, invented by Mrs. Griffith of New Jersey, a description of which is given below. This hive, as before mentioned, was a large one, being on an average fifteen inches square, and twenty inches high, capable of holding about ten pecks of grain. The old hive probably held about three pecks. This new hive was made very stout, put together with screws, and the joints perfectly snug. Having all things ready, about the middle of June, at night, when the bees were all still, I carefully raised the old hive from its place and set it aside. I then hung the new hive on the gallows on which the old one had stood. This hanging I will explain in describing the hive. I had previously bored three holes of one and a half inches in diameter, near together on a line in about the centre of the top of the new hive, so that they could enter it from the old one. When the new hive was well placed and every thing right about it, I removed the old one back on to the top of it, which, being so much broader than the old one, made a fine lighting board for the bees. Before I placed back the old hive, I examined and found it very full of inhabitants, and thoroughly filled with comb. I then left them for a few days to get acquainted with their newly intended habitation.

The bees next day went to work as usual, paying no sort of attention to the new hive, other than using the top as a lighting board to enter the old one upon; and I doubt whether they ever would have noticed it if I had not obliged them to do it. Fearing that they would swarm, as they had increased to great numbers, I completely stopped up the old hive with mortar, and compelled them to go down through the new one. This operation, however, they disliked exceedingly. Although they passed out of the old hive down through the new one, they would, on returning, all fly up to the old lighting place at the top of the new hive, where they assembled in immense numbers, running about uneasy and discontented. After running about awhile, they would fly off again to the window, and then, buzzing about a little, again alight at the old place, and pursue the same course as before. They began, however, before long to discover the entrance at the bottom of the new hive, when, as evening approached, they would all enter; but it was evident that they were dissatisfied and perplexed at the change, and performed much less labor than before.—The room was still quite light, and the window was open for some distance above the bottom of the new hive, although a smooth board was laid from the window sill to the entrance. I confess I was at a loss what to do; but it soon occurred to me to shut up all the windows but a small space at the bottom. I now did this by nailing a well jointed board across it, leaving only a space above the sill about four inches high. This aperture, although it still left the room partially light, answered every purpose. The bees now, instead of flying directly through the space in the window to the entrance of the old hive as before, although it was noonday when I did it, alighted on the window sill, and followed the board placed there to receive them immediately up to the entrance of the new hive, and from that moment entered them as regularly as if they had never known any other; not one, that I recollect, attempting to fly up to the old hive as before. This was another conclusive evidence to me, that bees will not fly any distance in the dark, although they will travel some feet on a smooth surface after alighting, to their habitation.

Here, however, I wish to make a passing remark. It is better always to have the entrances to the hives as close as may be to the lighting places; and if a dark room or garret be used as a bee house, let the hive or swarm be not to exceed eighteen inches or two feet from the outer entrance, and a smooth board always placed from the outer entrance to the hive itself. My reason for it is, that the bee, on returning to the hive, is generally loaded and fatigued, and every facility given to its labors by cutting short its travel, renders the task easier. It is certainly impossible for bees to do so much labor if the passage to their hive be difficult, as if it were otherwise. This is known from actual observation.

As the bottom board of my new hive is hung with hinges on the back side, and held up by hooks and staples on the front, where it projected about four inches, to allow sufficient room for the bees to alight upon, I could, as often as necessary, inspect the labors of the hive by letting it down and looking at them. They forthwith commenced building comb in the new hive, and in a very short time had covered the whole upper region of the hive, and down below the cross sticks for supporting the comb, filling considerably more than half the hive with it. After four or five weeks, the amount of comb did not materially increase; but the bees still labored, and carried in honey and bee bread while the season lasted. No attempt has been made to swarm. The drones made their appearance in large numbers at the usual time, and disappeared in September. In the early part of October, finding the new hive quite heavy, I concluded to take off the old one, and transfer the bees all to the other. Accordingly, after dark, I lifted off the old one quickly, while my man, who assisted me, immediately laid a cover over the holes through the top of the new one, to prevent the escape of the bees that were in it. I then turned the one I had taken off upside down, and set it on the floor, expecting next morning to see the bees all leave it, for the one that remained, and left them for the night.

Next morning, although clear and sunny, it was not very warm; and I found the old hive very full of bees, and clustered at the top of the comb, as it now stood inverted on the floor. They appeared listless and idle, while the occupants of the new one were busy as usual at their labors, seeming not at all to notice the removal of their fellows. To rid the old hive of its tenants, was now my object; so I turned it down on one side, and placed it near the entrance to the other, and rapped hard on it; but they took no notice of it, only by a continual buzzing and piling closer together. I then, with an augur, bored an inch hole through the top board, and puffed in large quantities of tobacco smoke to drive them out. But this did no good. They still buzzed and clustered closer together. The only effect that I observed was to make them drunk or stupid. I then took the axe and went to work in good earnest. I pried off the top board, which I did as carefully as I could; but not without breaking some of the comb. Still I found I could not take it out without great loss and trouble. I then deliberately, with the axe, pried and split the hive apart, as it was of no value; so that the whole contents lay open in broad compact masses before me. The bees did not offer to sting or disturb me; and the only vigorous movements that I could perceive, were a regular and systematic effort of the bees, in the other hive, to plunder the old one, and carry away all the honey they could. I presume the plan of operation was fully agreed upon, as the bees from the old hive immediately joined the others as they were disengaged from the comb. I now took up a piece at a time of the comb, which, although old and black, was tolerably filled with honey, and with a wing brushed off the bees on to the entrance board to the new hive. This, as the comb was in some instances broken, and the honey dropping out, was rather a

sticky job; and many of the bees were perfectly enveloped in it, and tell in large connected bunches on the board. This, however, was no disadvantage to them. The others quickly relieved them of all the honey, who, as soon as they were dry, immediately went to work also. The process of taking out the comb and brushing off the bees, took me upwards of half an hour, and I accomplished it with the loss of but very few, perhaps not to exceed a hundred in all. A good deal of honey was dropped on the floor, but the bees took it up perfectly clean, and deposited it in their hive. The amount of bees that I took out of the old hive was five or six quarts, and from appearances I should judge there were as many in the new one. There are now, probably, at least what are equal to two full swarms, and they appear as brisk as any bees I have ever seen, and as likely to live well through the winter.

Among the old comb which I took out, I saw no bee bread at all. There were some empty breeding cells, and a few young bees in one piece of comb only. As I observed the bees carrying considerable quantities of bread, both before and after taking up the old hive, I inferred that it was deposited in the low one, as I am informed by experienced bee keepers that they do not deposit bread in any but the lower hive, where more than one is inhabited.

As this hive will now hold what may be equal to three swarms, I can obtain a large quantity of honey from it next season; and if they become too numerous, I must place a larger box under this and remove them into it. As I have holes in the top, through which they can pass, I can place a vacant box over it to receive their surplus honey.

It will be seen that, although the hives I have used are different, the plan is essentially the same; being that of keeping them in one great community, and preventing their spreading by swarms. That the same number of bees are easier and less expensively managed in this than by the ordinary method of swarming in small hives, I fully believe; and were I perfectly sure that they will increase as fast in this manner of keeping them as in the common way, I would say that it is decidedly the best plan that I have ever known. That it is better than to kill the bees to take the honey, I am well convinced, as they can certainly be of no further benefit in such case.

The only question of which I have any doubt is, whether as many bees will be produced in one large hive, holding a number, say equal to ten swarms, as may be produced from as many distinct swarms in separate hives. I know of but one objection, and that is only known to me as a debatable one, to wit: it is asserted by many, and perhaps generally, that there is in every hive, after being properly organized, but one queen, or mother bee; that that queen is the female, and of course the only female, and propagator of bees in the hive; that such female can produce and lay but a limited amount or number of eggs; that the number laid by each female, in the ordinary hives, will throw off from one to three swarms per annum, besides making good the number lost by death and other accidental causes. Now, if such be the fact, that is, only one propagating bee residing in a hive, when such hive has increased to such a number as that it will require all the progeny of the mother bee to supply the annual loss to the hive, the number inhabiting such hive cannot therefore be increased to any further extent.

This question, relative to there being but one female in a hive, I have said is a debatable one; and some even go so far as to deny the existence of a queen bee at all. Doctor Smith, to whose treatise I before alluded, doubts the fact, although the bee, which others called the queen, has been shown to him. I have now three dead bees in my possession, which were given to me by an experienced bee keeper in Buffalo, which he says are queens. He found them in front of a young swarm of his that had just been hived, and said that the workers had but an

hour before drawn out and disposed of them. One was not dead when he brought it to me. They were certainly very different in their appearance from common bees, or from drones, being long and slender in their bodies, and having yellowish legs. These bees also had eggs in them, as I found on examination. I think upon the whole, there can be little dispute of the fact upon which the great majority of opinion is agreed. Now, does there exist more than one queen in a hive? If not, then a swarm cannot be increased beyond a certain number. But if more than one queen can, or does exist in a hive, or a queen be apportioned to a given number of working bees, I can find no objection to confining almost any amount of bees to one community.

To this problem I shall be pleased to receive an answer from any gentleman of observation through the columns of the *Genesee Farmer*, and although the question may not be so generally important, nor elicit such general observation as the article of chess has of late, still it is an important one in matters of rural economy, and not less so to natural history.

I have read many accounts of bees which were kept in garrets, eaves of houses, &c. but the accounts of their particular management have been so loose, that I have been unable to form any distinct data to govern my own conduct toward them. Some anecdotes have been published in the first volume of this paper, from Boston, Kentucky, Ohio, and elsewhere, relating to their management, which have interested and pleased me; and all these accounts, more and more convince me that much is yet to be learned of the proper management of these useful insects, the best way of which appears to be, to obtain the greatest quantity of honey from a given number of bees without destroying their lives.

ADVANTAGES OF THE BOX PLAN.

If I meet with no accident, I intend keeping my swarms together, and all in one community; so long as I am able to do so. If my present hives get too full, I can build larger, and in one season drive them all into it. I am satisfied that a swarm of bees can collect honey and bread enough in two months of the honey making season, to support them through the winter. If they have sufficient room, they will work so long as they can find materials; and of course, the more room they have, if properly arranged, the more honey they will make. The bees are by this method kept together: they are strong, powerful and fearless; able to repel any invasion, and to afford themselves complete protection. They are thus more easily managed than when in separate hives; and when kept in a sheltered, tight building, and a dark one too, which ought always to be the case, an equal temperature prevails among them, keeping them more healthy and regular. Darkness is, besides, more natural to them when at rest than light; and it affords also less opportunity for attacks from other insects and vermin. There is, too, much labor always performed by every swarm of bees, in glueing up the open joints and cracks in their hives; of course, if few joints exist, the less such waste labor they will have to perform. The labor of seeking out new habitations, and all the nameless matters of preparation for removal of young communities is saved; each young bee, as it emerges into life, having naught to do but take its place among the ranks of the hive and commence its round of duty. This last advantage I conceive a very great one, as much time and pains is often consumed in preparing their habitations, and guarding against the rigors of the climate. They are not at all liable to be robbed when in such large communities, and are always safer from depredation than smaller tribes.

Some writers have gone so far as to say, that the bee moth or worm would not disturb them when placed in a dark and high garret. This I have found not to be so. There have been many worms in and about my hives, but no injury has been sustained by

them. I have watched them pretty narrowly, and destroyed many, yet they were continually there, and they breed with a rapidity that surprised me. Owing, I presume to the great population of the hive, they could not effect a lodgement within them, and were therefore unable to do them any harm. I often caught worms and laid them near the mouth of the hive. One or more bees would forthwith seize it in great anger, and carry it completely out of the building, and fly off with it to some distance before it was dropped. I know of no better way to dispose of these troublesome insects than to watch and destroy them as opportunity may offer.

Bees managed in this manner may be kept in the midst of our largest towns and cities. One of my hives stands in the most populous and compactly built part of the town, surrounded by high brick buildings. There are always some gardens in the neighborhood; and they can easily range the fields out of town to obtain their food. Besides this, they search every store and house in the vicinity, and the grocer's sugar, honey and molasses casks receive abundance of their visits, from the refuse of which they gather much treasure. While on their excursions of labor they are perfectly docile, never attempting to sting unless assailed, and even then more disposed to leave the ground than retaliate.

DESCRIPTION OF THE FIRST HIVE.

The hive is six feet long, sixteen inches wide in the clear at top, twelve inches at bottom, and one foot high; with two partition boards, making three rooms, with an open communication to each, and all having openings to the lighting board in front.

The top board of the hive is six feet long and eighteen inches wide, with a hole, three inches in diameter, over the centre of each room, through which the bees can pass when a box is placed over the top to collect honey. There might be two passages over each room, if small boxes were used.

The front of the hive is six feet long and twelve inches wide, with small openings at the lower side for the bees to pass through, six inches long by three-eighths of an inch high.

The back board of the hive of the same dimensions as the front.

The bottom board is six feet long and eighteen inches wide. This board is sawed into three parts. A piece, eight inches long at each end, is nailed to the upper boards, so as to rest upon the stand or frame that supports the hive. The middle part, being four feet eight inches long, is hung with butts to the back board, and may be swung down at pleasure. It is fastened up with hooks and staples in front. A narrow strip in front, four inches wide, for the lighting board. The bottom board, as well as the outside of all the others, should be perfectly smooth; the inside should be left rough, that the comb may adhere better to the top and sides.

The two end boards of the hive are sixteen inches wide at top, twelve inches at bottom, and twelve inches high.

The partition boards are the same size as the ends, having a passage way at top and bottom, each six inches long and one inch high, and a circular opening in the middle of four inches diameter. If it be intended to confine the bees to any one room or rooms in the hive, these passages may be stopped by placing boards over them, and removed as the increase of the swarms may demand.

It does, in fact, appear to me, that if bees will go on increasing *ad infinitum* in one community, that this is the best of all possible hives; for it can be extended to any reasonable length, and room after room may be added, as may be necessary. If it should even be extended to forty feet, I think the height nor width would not need increasing; as there would be space sufficient to hold all the bees, and afford an easy passage to the boxes on the top for the surplus honey. I do not know of any greater objection to this length of hive, and the harmony of their opera-

tions, than in those swarms which occupy twenty feet of a dead tree, and issue out from three or four different holes in its trunk, which I have witnessed. I was once at the taking up of a bee tree that had strips of comb six feet long, and yielded upwards of two hundred pounds of honey.

DESCRIPTION OF THE SECOND HIVE.

I will here observe, that I consider this the best plan that I have seen for ordinary sized swarms. The following account of it is given by the inventress:

"The Charleshope hive, is thirteen inches square at the top; but as the sides decrease in width to the bottom, the base is narrower, being only seven inches on the flanks, and thirteen inches in front and at the back. The hive is in height about twenty-six inches in front, and twenty behind. Of course, the floor is an inclined plane. It is fastened behind with hinges, and at the sides with hooks and staples. The roof or cover, is like the rest of the hive, made of common inch board, with cleats screwed on the top to prevent it from warping. The top is screwed to the hive in two places. Three holes are bored in this cover, of one inch diameter, and about a quarter of an inch apart, on a line with each other, and parallel with the front of the hive. Three holes are found to be necessary, as the bees would otherwise build in such a manner as to close them and prevent their ascent to the upper box, when that becomes necessary. The under part of the top or cover is rough, as the propolis, or bee glue, does not, at all times, adhere sufficiently well to a smooth surface. Every other part of the hive is as smooth as possible; and the whole hive, box and all, is well made and joined. The upper box is thirteen inches square, and the width of a board deep, from eight to ten inches. This box is likewise smoothly planed, excepting the inside of the top board, which is rough.

"The box sits snugly on the top of the hive; the cleats are placed in such a manner on the upper surface of the cover, as to fix the box firmly.

"When it is ascertained that the hive is full of honey, the plugs in the three holes are taken out. The bees may then ascend, and if the season be favorable, they will fill the box with comb and honey.

"About three or four inches from the top of the front and back of the hive, are two cleats, which serve to sustain the hive in a moveable frame, made of narrow slats of wood, which frame enables any one to carry the hive from place to place, as the hiving and other operations make it necessary. The hives are likewise suspended by these cleats, on permanent joists or scantlings in the apiary.

"Hives thus suspended are out of the reach of mice, and they are, too, better, on a variety of accounts.—The opening and shutting of the floor allows of daily inspection. The floor can be cleaned often. The inclination of the sides and bottom allows the perspiration of the bees to flow off rapidly. This is a great point gained, as dysenteries are induced by the absorption of such acid matter. The slope in the floor enables the bees to remove all extraneous matter, and to defend themselves better from robbers and intruders.

"The entrance to the hive is about three inches wide, and half an inch high. A door of wire, the meshes of which are small enough to prevent the entrance of the miller, rests behind two door posts made of needles. These needles are driven into the floor, close to the entrance. The little doors are always put behind the needles as soon as the bees are in for the night; and they are removed at daylight. About the middle of April, the doors are first used; and they are discontinued in two months. After the middle of June the floors are let down and are suffered to hang until daylight, when they are gently raised up and hooked."

I have made my hive larger for the purpose of holding several swarms; but I do not consider it so good for that purpose as the first—the bees having to travel too far to get into the surplus boxes from the

main entrance. I intend, however, making holes in the sides of my hive, and putting on cleats at proper distances to slip in boxes for deposits of honey. I know of no reason why they should not work through the side as well as through the top of the hive. My hive is suspended through a frame stand by the aid of cleats, as is represented by Mrs. Griffith.

I will here make one remark which I consider important. Were I to build another hive on the plan of the first, the end and partition boards should be at bottom in the shape of the ends of the second hive. I find that my bees perspire so much as to collect in considerable quantities on the floor board. On the inclined floor this passes off rapidly, leaving them free from the unhealthy odor arising from that and other impurities, which would otherwise remain on a level surface. Cross sticks should also be placed inside the hive, at proper distances, to prevent the comb from falling.

ULMUS.

Prices Current in New York, January 19.

Beesear, yellow, 18 a 20. Cotton, New Orleans, .11 a 13; Upland, .10 a .11; Alabama, .10 a .12. Cotton Bagging, Hemp, yd. 13; 21; Flax, .13 a .14. Flax, American, 7 a 8. Flaxseed, 7 bush. clean, 15.00 a 15.25; rough, 14.00 a 14.25. Flour, N. York, bbl. 6.00 a 6.25; Canal, 6.12 a 6.25; Balt. How'd st. 6.25 a —; Rhd'd city mills, 6.68 a —; country, 5.87 a —; Alexandria, 6.12 a 6.37; Fredricks, uncertain; Peters's, new, 6.00 a —; Rye flour, 4.12 a 4.18; Indian meal, per bbl. 3.75 a —, per hhd. 17.50 a 17.75. Grain, Wheat, North, 1.19 a —; Vir. 1.15 a —; Rye, North, .86 a .88; Corn, Yel. North, .73 a .75; Barley, — a .75; Oats, South and North, .45 a .50; Peas, white, dry, 7 bu. 5.00 a —; Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess, 8.25 a 8.75; prime, 5.25 a 5.75; cargo, — a —; Pork, mess, bbl. 13.00 a 14.25, prime, 11.25 a 11.75; Lard, 9 a .94.

GRAPEVINE CUTTINGS.

In a few days will be received and for sale at the American Farmer Office and Seed Store, a quantity of cuttings of the CUNNINGHAM AND WOODSON GRAPES. An account of the excellent quality of these grapes, both for the table and wine, will be found in the American Farmer, vol. xiv. No. 33, October 26.—The price of these cuttings is 8 cents each.

Also will be received, at the same time, a quantity of Norton's seedling grape cuttings. These grapes are said to be very superior to most native grapes.—Price 6 cents each.

Also a quantity of rooted Vines of the SCUPPERNONG GRAPE from North Carolina. The character of the Scuppernong Grape is too well known to require description. Price, for two year old vines 37½ cents each, one year old 25 cents.

SPLENDID PEONIES.

Just received and for sale at the American Farmer Office and Seed Store, a few of the POPPY FLOWERING TREE PEONY, (Pæony arborea papaveracea), and of the TREE PEONY, (Pæony arborea). To experienced florists it might be needless to say a word about the great beauty of these plants; but the public generally may not be as well informed. A recent publication on horticulture thus describes the tree peony: "In the gardens of China they cultivate an immense number of varieties of this splendid plant,—some of which are said to be sold as high as a hundred ounces of gold; and in so much esteem it is held by them that it is there called the 'king of flowers.'"—Price's Treatise on Horticulture. Of the poppy flowering peony the same work thus speaks: "The flowers of this plant are single or semi-double, but being of a pure white color, with a purple center, they combine a delicacy calculated to excite great admiration; it is also more rare than the tree peony, and it is but a couple of years since Messrs. Prince paid five guineas for a very small plant." Price of the poppy flowering peony \$5 each, and of the tree peony \$2.50 each.

RED ANTWERP RASPBERRY BUSHES,

For sale at the American Farmer Office and Seed Store. Price, 12½ cents each; \$1.25 per dozen; or \$8 per hundred.

I. I. HITCHCOCK.

MORUS MULTICAULIS, OR NEW CHINESE MULBERRY.

Superior to all others for Silkworms in these respects: 1st. The stalk is low, and therefore the leaves are more easily gathered than from large trees.

2d. The leaves are large—from ten to fourteen inches long, and from eight to twelve broad, hence much of the usual labor of gathering is saved.

3d. A method of cultivation will be imparted to the purchaser of twenty trees at this establishment, by which he will in three years have a full supply of leaves for any desirable silk establishment.

A few hundred of these trees are for sale at the American Farmer Office and Seed Store, No. 16 South Calvert street, by

I. I. HITCHCOCK.

FLOWER SEEDS.

The subscriber has now his assortment of Flower Seeds ready for his customers, and will be happy to receive their orders. A printed list of them is just completed, which will be sent to any person who shall request it by letter (postage paid) or otherwise. These seeds are chiefly the growth of 1892, in the garden of this establishment, and are known to be from very superior flowers. I have several books also on horticulture, which are named in the Flower Seed Catalogue above referred to.

I. I. HITCHCOCK.

American Farmer Office and Seed Store.

FRESH GARDEN SEEDS.

J. S. EASTMAN, at No. 36 West Pratt Street, has just received a supply of Fresh Garden Seeds, imported by Mr. Samuel Ault, whose seeds have been so highly esteemed by the public for many years past, and which he feels a confidence in recommending to his customers, whose orders will receive prompt and particular attention.

The public has been informed from another source, that I have parted with some of my late workmen in my manufacturing establishment; and while I acknowledge this fact, I would also inform the public, that their places have been filled with equally faithful and experienced workmen, who are fully competent to sustain the credit of my shop; and my customers may depend on my continued exertions to do justice in materials and workmanship, and to afford my implements of husbandry on as reasonable terms as they can be obtained elsewhere.

Jan. 25.

STRAW CUTTERS, CORN SHELLERS, &c. SINCLAIR & MOORE, offer for sale a variety of kinds of Straw Cutters, the Cylindrical of the following sizes and prices, viz. 1 inch box at \$27. 14 inch at \$45. 16 inch at \$55. 20 inch at \$75. The smallest (price \$27) will cut 300 bushels of straw one inch long per day, and is precisely the kind spoken of in the following note, addressed us by the proprietor of the American Farmer:

GENTLEMEN: Baltimore, October 2, 1892. John G. Eliot, for whom we bought one of your Straw Cutters last year, writes me thus, under date of Sept. 20, 1892:

"The Cutting Knife answers well. I would not be without it for the price of two."

I have much pleasure in communicating the above, for I think the instrument well deserves the compliment thus bestowed on it. Yours, truly,

SINCLAIR & MOORE, Balt. I. I. HITCHCOCK.

The second size has cut, in the vicinity of Baltimore, seven hundred bushels per day, with manual power.—The third and fourth are capable of much more, particularly with horse or water power. These machines may now be expected to go into more general use, as they can be furnished at a more moderate price.

Also circular knife self-feeding boxes at \$20. Common Dutch box at \$7.50, and smaller size at \$5.

CORN SHELLERS, with vertical cast iron wheels, very durable and easily kept in order, which sell with great ease and rapidly, price \$20. CAST STEEL AXES, with a general assortment of AGRICULTURAL IMPLEMENTS and GARDEN SEEDS.

WANTED,

At the American Farmer Office and Seed Store, all kinds of GRASS SEED, CLOVER SEED, and choice Domestic Animals. Apply to

I. I. HITCHCOCK.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—Business has been nearly suspended in the produce market, and of course our quotations are merely nominal. There are few sales of Howard street flour from wagons; the millers and farmers preferring to store their flour to selling it at the price offered by dealers, which is \$5.50. Beef is now worth from \$5.50 to \$6.25.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a —.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 2 hds. Md.; and 29 hds. Ohio—total 109 hds.

Flour—best white wheat family, \$6.75 a 7.25; super Howard-street, 5.64 a —; city mills, 5.50 a —; city mills extra 5.64 a —.—CORN MEAL bbl. 3.50; GRAIN, best red wheat, 1.10 a 1.14; white do 1.16 a 1.20; —CORN, white, 62 a 63, yellow, 62 a 63; —RYE, 72 a 75; —OATS, 40 a 41; —BEANS, 75 a 80; —PEAS, 65 a 70; —CLOVER SEED — a —.—TIMOTHY, — a —.—ORCHARD GRASS 2.00 a 2.25; Tall Meadow Oat Grass 2.00 a 2.50.—Herd's 2 a 2½; —Lucerne — a 37½ lb.—BARLEY, —FLAXSEED 1.50 a 1.62; COTTON, Va. 10 a 12-Low, 12 a 14—Alab. 10 a 12½; Tenn. 10a. 12; N. Car. 10 a 12; Upland 10 a 12½—WHEAT, hds. 1st p. 29 — a — in bbls. 32 a —.—WOOL, Washed, Prime or Saxony Fleeces 45 a 50; American Full Blood, 38 a 42; three quarters do. 33 a 38; half do. 30 a 33; quarter do. 25 a 30; common 25 a 28. Unwashed, Prime or Saxony Fleeces, 25 a 30; American Full Blood, 22 a 25; three quarters do. 20 a 22; half do. 18 a 20; quarter do 16 a 18; common, 16 a 18 HEMP, Russian, \$206 a 217, Cotton, dew-rotted, 6 a 7c. lb. water-rotted, 7 a 8c.—Feathers, 37a 38; Plaster Paris, per ton, 5 90 a 6.00, ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for forges, per ton, 32.00 a 30.00; bar Sus. per ton, 75.00 a 85.00.—Prime Beef on the hoof, 5.50 a 6.25.—Oak wood, 4.00 a 4.50; Hickory, 5.50 a 6.00; Pine, 2.25.

CONTENTS OF THIS NUMBER.

Editorial; Culture of Hemp, by Mr. Clay; Agriculture; Culture of Bees—The Locust—Draining—Ergot or Spurred Rye.—Communication from the Hon. Henry Clay, on the Culture of Hemp; Lands most suitable for its culture; Preparation of the Ground; Time and Manner of Sowing the Seed; Modes of Gathering; Methods of Dew and Water rotting; Process of Breaking, &c.—Hints to Farmers; Adapting Crops to the Soil and Market.—Amelioration of Fruits; best sorts raised from Seeds of Improved Varieties—Cultivation of Bees; the Result of two different Experiments given; Description of the Hives used, with the cause of their failure and ultimate Success; Inquiry in relation to Queen Bees; Bee-moth; more Particular description of the first Hive, as also of the Charlotte Hive; Improvement in Hives suggested.—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

GENERAL

Agricultural and Horticultural Establishment COMPRISING,

A Seed and Implement Store, a General Agricultural Agency, and the Office of the American Farmer, No. 16 South Calvert street, Baltimore; in connection with a Stock and Experimental Farm, Garden and Nursery in the vicinity.

Is an extra number of the Farmer, containing a prospectus of the "Establishment," and a "Catalogue of Seeds," common for sale, shall be sent GRATIS to any person who shall by mail or otherwise furnish his address for that purpose.

AGENTS FOR THE FARMER.—All postmasters are requested to act as agents for the Farmer, and to require a strict compliance by subscribers with the terms, especially the third item. They are authorized to retain one dollar for each new subscriber, and ten per cent. on all other collections. The list of special agents is published in the Farmer every third week.

(Terms next week.)
DIRECTION OF LETTERS.—Address all business letters concerning the Farmer, the store, or the agency, to the proprietor, "I. Irvine Hitchcock, Baltimore, Md."

Printed by J. D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, FEBRUARY 1, 1833.

BARLEY.—An old English farmer, by the name of Markmellor, who professes to understand the culture of barley, called on us a few days ago, and gave us the following particulars of an experiment in raising barley in Baltimore county. He prepared a piece of ground well, by manuring and ploughing, and planted 3000 grains of barley on 108 square yards—or a piece 15 yards long and 6 wide. The grains were planted about 9 inches apart each way. The produce was one bushel and six quarts, weighing 45 lbs. to the bushel.

Mr. Markmellor has no doubt that by a proper system of culture, barley might be raised to great advantage in this country; and indeed he has succeeded in raising two crops from the same piece of ground the same season in a small way. He says the ground should be well prepared and well manured; and that ashes answer an excellent purpose. The barley should be sown as early in the spring as it can be got in the ground—the season of sowing oats is the proper time. If sown in drills a foot apart and cultivated either with the hoe or a small double mold board plough, it will pay for the additional labor. When the barley is sown in March it will be ripe in June, and the ground being immediately prepared and manured with some fine manure may be sown again, and the second crop will be ready to harvest in October. He says the straw of the second crop will be better for fodder than that of the first, and that the grain is fully equal. He has left at our office, a root, with the stubble attached, procured from a single grain, that persons interested may examine it.

We do not profess to know any thing of the culture of barley, and therefore can give no opinion on the subject. Mr. Markmellor appears to understand it perfectly, and is very confident of the correctness of the opinions he has advanced as above.

EXHIBITION OF SHEEP.

MR. SMITH: Talbot County, (Md.) Dec. 26, 1832.

During the past fall, we have been amused with the various performances of the high blooded steeds over the different courses, and lately have witnessed the highly interesting political contest between Jackson, Clay, and Wirt. The ladies in various parts of the state have held their fairs, and I see more progressing in your respectable city for the promotion of charity. The trustees of the agricultural society of Maryland still hold their festive meeting monthly on the Eastern shore. Notwithstanding all those amusing, important, charitable, and agreeable proceedings, I regret to see our cattle shows abandoned, which have done so much real good to the community. As this is the age of improvement and invention, I am about to propose a new exhibition, which perhaps, may renovate the dying embers of agriculture—and I know no gentleman to whom I can, with more propriety call to aid me in this new plan than one of your valuable correspondents from Virginia, though I have not the pleasure of personally knowing him, I admit his exertions to promote the improvement of land and stock; I allude to Mr. R. K. Meade, and hope he will at once see my motive is only to endeavor to raise an ambition for the benefit of society, and not to make money. It is only through the American Farmer that I have become acquainted with Mr. Meade, where I find he is a lover of fine sheep and other stock, and have reason to believe he has bestowed due attention on that animal, and perhaps has as fine sheep as any other gentleman in Virginia. What I propose is, that gentlemen of the different states (who may feel disposed so to do) throw in a sweepstake of twenty dollars, and exhibit in the city of Baltimore, some time in November next, one ram—two ewes, and two we-

thers, from two to three years old the preceding spring. That there be three or more judges appointed, who shall take into consideration the size, beauty, form, and quality of wool, (the wool to be estimated agreeably to the breed of sheep) and other good qualities, minutely observing all the good and bad points, belonging to each animal, and when all is summed up, to award to the gentleman possessing a majority of such sheep, having the greatest number of good points or qualifications, the sum of money which may be deposited, or if more agreeable to be divided between any two gentlemen having such sheep—as the exhibition is only intended to stimulate the farmer, and more may grow out of it—as great effects are sometimes produced from small causes. I have just thrown out these hints without my own signature at the spur of the moment, should Mr. Meade and any other gentleman think such an exhibition worthy of attention,—they can communicate through your paper—and my name can be made known.

AN EASTERN SHORE FARMER.

[We take the liberty of saying, for the information of those who may be disposed to take the plan into consideration, that the author is one of the most respectable gentlemen on the Eastern Shore of Md. In reply to the private note of our correspondent, we would observe that he cannot "trouble us too often," as he appears to suppose.—Ed. Am. Farmer.]

TREE COTTON OF PERU.

MR. SMITH: Lima, Peru, Sept. 3, 1832.

I had the pleasure of writing you from Valparaiso, (Chile,) under date of 20th April, and of forwarding you a small box containing a few seeds, &c.—among other articles, a sample of *Peruvian cotton*. Since then, on my passage hither, the vessel on board which I embarked touched at several intermediate ports, affording me an opportunity of witnessing the growth, &c. of the much-talked of *cotton tree*.

While the ship lay at Arica, (the southernmost port of much note in Peru,) I visited the fertile valleys of *Asapa* and *Tuena*; in the latter of which there is a town of the same name, forty miles interior from the port of Arica, containing a population of some eight thousand souls, and which carries on considerable trade with Potosi, La Paz, and other towns of Bolivia and Peru. Among other productions of these valleys, which attracted my curiosity, was the *cotton* of the country—a small quantity of which I gathered myself, from the trees on which it was borne! This *cotton tree* grows spontaneously in most of the valleys of Peru, near the sea coast, and sometimes thirty or forty leagues interior. It is perennial, thriving for twelve or fifteen years without renewal; and frequently rises to the height of twenty or twenty-five feet, exhibiting a beautiful sight in the season when the largest number of bolls are open. The size and conformation of the leaves and bolls are very similar to those of our *annual plant*. One species of this tree produces *yellow cotton*, resembling the East India anakeens; but the yellow is greatly inferior to the white, both as regards the size of the tree and staple of the cotton. The trees are cultivated in *huertos*, (or orchards,) somewhat as we rear fruit trees; and they require considerable attention in trimming, &c. In the neighborhood of Payta, the staple of the cotton is better than in any other part of Peru.

I inclose you small samples of both the white and yellow kinds, that some of your southern friends may try its adaptation to the climate and soil of our country.

The difficulty of gathering the cotton, however, seems to me to present an insuperable obstacle to the profitable culture of this cotton tree. The people here shake the cotton from the trees, as we do apples, and then pick it up from the ground; but this is neither a clean nor an economical mode; and, as a good portion of the bolls on the trees are beyond the reach of a person standing on the ground, it does not occur to me how the objection could be obviated. In my judg-

ment, the cotton plant of our country possesses a most decided advantage over the cotton tree of Peru.

As regards political matters, this country is truly passing through a fiery ordeal, in her transit from despotism to liberty. Faction, intrigue and personal ambition, still maintain their blighting sway over unfortunate Peru—expelling from their homes, or rendering nugatory the efforts of all the best patriots in the country. Foreign commerce is nearly destroyed, and the country is becoming more impoverished every day; so that very little now remains of what these proud people once were, but their unsubdued self-esteem, their extravagant, luxurious and indolent habits.

Permit me to renew to you an assurance, that I shall at all times, and under every circumstance, take great pleasure in reciprocating favors with you, whenever opportunities are presented of doing so.

I am, with sincere regard,

Your friend, and most obedient servant,

PHILO WHITE.

[§7. As the quantity of cotton seed contained in the above was very small,—only as much as could be inclosed in a common letter,—we have judged it best to send it to Mr. White, (the delegate in congress from Florida,) that it might be first tried in the southernmost part of the country. If it prove valuable, it can then be gradually introduced farther north.—Ed. Am. Farmer.]

CULTURE OF SILK.

Extract of a letter to the Editor of the Am. Farmer dated Weynesborough, Geo. Jan. 14, 1833.

"Some experiments that I made with the silkworm a few years back, not with a view to profit but to enable me to form an opinion as to what might be done with them in this country, led me to the conclusion that the cultivation of the silkworm might be made as productive of profit as any of the staples of the south; and I am now inclined to prepare myself for the business, in case I may at any future day discover that I can turn my attention to the business profitably. I have now several hundred white mulberry trees on my plantation, and I am sanguine that my good wife will this year wear some silk of her own cultivation."

FOREIGN MARKETS.

LIVERPOOL, Dec. 22, 1832.

Cotton.—To-day the sales of cotton are said to amount to 1500 bales, viz:—six hundred Brazils and Egyptians, the former in Cearas at 84d, Bahias at 8d and 84d, and Maranahs 14d and 87-9d, the latter at 84d to 87-8, and about 100 in American descriptions from 6-8-8d to 74d.

Tobacco has again been in limited demand, but prices are without alteration; the business of the week consists of 50 hhds. Kentucky leaf for speculation, and 75 hhds. Virginia leaf and stemmed, chiefly to the trade.

Corn Market.—Though this week's imports of wheat, oats, flour, and oatmeal are small, they have, in conjunction with the quantity remaining from previous arrivals, kept the market over abundantly supplied, and, on Tuesday, wheat again declined in value about 3d per 70 lbs. at which reduction even the best qualities were difficult of sale. Flour in which scarcely a transaction occurred, was also 1s per sack cheaper. At Friday's market, the choicest samples of Irish new wheat being a little more inquired after, brought 7s. 4d, but good runs might have been bought at 6s 10d and 7s per 70 lbs, and the trade generally must be noted dull. Flour was still neglected, though good marks were offering at 42s to 43s per sack. Nothing to report in the bonded market.

LONDON, Dec. 21.

Corn Exchange.—The week's arrivals of both grain and flour are very moderate. The buyers who attend to-day showed very little disposition to purchase.

AGRICULTURE.

(From the Farmer's Chronicle.)

TREATISE ON THE CULTURE OF YELLOW TOBACCO,
Containing every necessary information respecting the whole process of raising, managing, curing and conditioning of that article, in the state of Ohio.—
By JOSEPH H. DAVIS, Tobacco Merchant, of West Rushville, Fairfield county, Ohio.

How to cultivate, manage, and condition the Fine Yellow or Small Tree Tobacco, which is most approved of.

OF SOIL, PREPARATION AND CULTURE.

The first inquiry which presents itself to the view, is, what soil is the most congenial to the growth of tobacco plants, and in what manner should the ground be prepared for the reception of the seed?

The ground intended for seed beds, should be of a fertile and light nature, and pretty well situated to the rising sun.

After the selection of your ground, you should then proceed to make your beds, by first removing all manner of leaves and filth, and then lay off a piece of land about eight yards square, and thereon heap a considerable quantity of brush, to the height of four or six feet; after burning your bed remove the ashes and coals therefrom, then break the surface of your bed to the depth of half an inch, with a hoe or small mattock; then with a rake pulverize the earth completely; and to a bed of the aforesaid dimensions, one table spoonful of good seed well intermingled with a peck of clean ashes will be sufficient.

It is good policy to sow the principal part of your seed in the month of December, some in January, and the residue in March; and when you are of opinion that you have a sufficient quantity sown, sow about as much more; for as the old proverb says, "a wise man will not suffer in time of a famine."

The second question for inquiry is, what soil is most conducive to the growth of tobacco? I, as a grower and purchaser of tobacco, conceive that a sandy or loamy soil, interspersed with blackoak, hickory, chestnut and dogwood, is unquestionably the most congenial to the growth of fine gold-leaf and silky textured tobacco; and that pretty fully situated to the south; but from observation for many years I am induced to believe that any land which lies not too low, by proper management, will produce in a greater or less proportion, good yellow, spangle and red leaf tobacco.

You should clear your land through the winter, and be careful to have the principal part of the timber taken off, and burn on it as little as possible, by which means you will avoid the large and luxuriant growth of the plant, which no man can cure fine in texture or complexion.

Planters should be particular to have their ground well raked and ready for the plough by the middle of April, and break their land about from two to three inches deep; and then harrow it well both ways, taking care to have the roots picked up, then cross-plough the ground in like manner from two to three inches, harrow the soil twice, and have the roots removed off. Now proceed to lay off your land, say from two to three feet wide in a ridge form, and when you commence planting, plant on the ridge, say from fifteen to twenty inches asunder, if your land should be of the ordinary fertility; but if a very strong soil then make your distance on the ridge twelve to fifteen inches; take care before you set out your plants, to have the sharp ridges a little flattened by running over the same with an iron rake, lightly.

If your plants on the 10th or 15th days of May should be of the size of a fifty cent piece, I would advise you to plant; taking care to have your plants as uniform as possible, and at that planting do not have less put in the ground than would make a house

or two of tobacco;—thereby it will be ripe about the same time, and your chance much better for yellow and spangle tobacco.

The ground which you prepare through the day in the month of May, can be planted in the evening just before the going down of the sun without rain, as the land is then fresh and moist, and if the plants should be well stuck in the ground, but few of them will die, if the bud be not injured. One precaution in this mode of planting will be necessary for planters to observe: the evening previous to setting out their plants it will be requisite to have the beds in which the plants are growing well watered, and when you commence drawing your plants, make use of a fork, to prevent injuring them. Planters should finish planting, on or before the 20th day of June; as it is a gloomy prospect after that time. But there are exceptions to this, as well as all other rules; for I have raised very handsome tobacco that was not planted until the 8th day of July or as late as the 15th of the same month. These circumstances, however, occur but seldom, all depending on the favorableness or otherwise of the fall.

Your tobacco is now planted; it is then necessary to call your attention to the cultivation of the plant. When it shall be large enough to bear a little stirring with the hoe, then go over the tobacco ground and cut down the weeds and grass, so that the plant may get the ascendancy of them, thereby giving it a start to grow; and as soon as your tobacco will bear a little dirt, I would advise you to plough it with a shovel plough, say twice in a row, and put as much earth to the plant as it will bear; work your tobacco in this way two or three times.

A mistaken idea has prevailed throughout the country, in not working the tobacco, in consequence of which, many persons will not make more than half a crop, even if the season be favorable.

One acre of land well prepared and cultivated in the aforesaid manner, will produce from seven to eight hundred, and in some instances one thousand pounds, in proportion to the strength or stamina of the soil on which it shall be grown.

The same field will produce two crops; the second will not be so fine as the first, and will require more labor. Tobacco will not impoverish your land much faster than Indian corn or small grain.

Warning Tobacco.—When a quantity of worms make their appearance, it will be necessary to watch with the eye of a hawk for these depredators, as they in a short time will do great injury in destroying and ragging your tobacco, similar to hail.

Topping.—I would suggest to you the propriety of topping, about the 16th day of August, and the 26th, and so on, until the 10th day of September, owing to the time of year your tobacco was planted, leaving on a stalk from twelve to twenty leaves, in proportion to the size of the plant. It will be advisable after you have topped, to suckle it well, and as often as necessity may require; and by that means you will bring the top leaves to perfection.

Housing.—The next question is, how to know when to commence housing? By the following observations: When your tobacco has come to maturity, you will discover the bottom leaves to decline and die; your tobacco will be very gummy, and light spots will appear interspersed upon the leaf. Your early planting may be housed from the 10th to the 20th of August, if the season be favorable for ripening and housing tobacco.

Tobacco Houses.—I now suppose your crop ready for housing, consequently let me give you some information in respect to your houses, which I would advise you to have built during the winter, as it will lessen your labor when you are engaged in working, in *worming* and in *topping* your tobacco.

For a crop of four acres, a house twenty feet square in the clear, will be sufficient to fire it in, by having other houses suitable to re-hang in, after firing. In raising your tobacco houses, it would be advisable

to have your first set of joists seven feet high, which are properly called *scaffolding* joists, and then a space of three feet until you get to the top. Four sets of joists, exclusive of the scaffolding, and as many collar beams, will be sufficient to hang half an acre of good tobacco. Your houses should be pretty tight, as I conceive much light is injurious to the plant when the fire is under it. Your houses should be *daubed* in the inside up to the top, and outside as high as the first set of joists; taking care to have two air holes in each end, and as many on both sides of your house, about eight feet from the ground; and a small quantity of air admitted in the gable ends, is an advantage to the tobacco; this air you may admit or preclude by a trap door, as you would discover it necessary.

The pits for your fires should be dug within eighteen inches of the walls, three feet wide at the top, and two at the bottom; making an oval form, in order that the wood may feed itself; and extend the pits entirely across the house so as to use long wood in firing your tobacco.

The joists should be four feet asunder or apart, and your sticks well shaved, and four feet six inches long. From experience I find it the better plan to have the sticks as smooth as possible, and by that means your tobacco will be clear of any ragged appearance, and will be much more valuable when in market, at home or abroad. A second mode to construct tobacco houses, is, to build sixteen feet square, and your joists twenty inches asunder, and the tiers of joists three feet and six inches apart; and construct through the above mentioned house two cat-and-clay flues; say by clearance of all the loose surface of earth, you will then get good wood, say one-half hickory, ash, or sugar, and the balance rails, and bark and build the wood up in an oval form; say twenty-eight inches at the bottom; and have the flues constructed near the sides of the house, and have the logs cut away from the place to the distance of from eighteen inches to two feet, by which means you will render your house much less subject to take fire, and have the mortar and straw well tempered before the same is applied, and the wood thereby making a strong cement, and when engaged in applying the mortar, at spaces of eighteen inches apart a small plug of wood, say three inches in diameter, or two will do, on each side of the flue, which will enable you to heat your house with more care when firing, and you can when firing with small fires, shut up those holes with a small stone or brick, but after your flues have been built about ten days, you may burn them out; you will not have your flue less than five to seven inches thick with mortar.—Your house should be very tight, and as high as you please to build, say twenty-five feet, if you think proper, and the sticks should be small enough to admit a tin or iron socket, thereby enabling you to put the leaves on without any difficulty; say just so as to touch, and the sticks shaved in the neatest manner, rather sword fashion.

Housing.—I now suppose you ready to commence housing your tobacco. If so, and you calculate to fire on Tuesday, it will be good policy to begin splitting on Monday; and split half an acre, which will fill your house aforesaid, of twenty feet square. Take great care in splitting, that your tobacco does not fall, as the sun will be very injurious or perhaps fatal. Split within five inches of the ground. Then commence on Tuesday evening and cut down something like three or four sled loads, taking good care to put your tobacco thereon as carefully as possible; and have it in your house before the departure of the sun. As your hands take the tobacco into the house, be particular to have it laid on smooth planks upon each side of the building. By taking the above course, you can, on the next morning, keep your hands employed until the dew gets off. When sticking, you should have as much stuck as will employ your hands sometime to hang it in the house.

The best and most expeditious mode in filling your house is, when you put the hanger and conveyors up,

you should have enough of them to carry to the man who is engaged in hanging; and he should be a careful person, taking care to have the stick on which you have put from seven to ten plants, according to their size, equally regulated, and hang it from eight to ten inches asunder on the joints. A house should always be filled in one day, and this may be done by five good hands.

Be careful not to put your tobacco in the house wet, either by dew or rain, if you can possibly avoid it. So sure as it goes in wet, it will take a scald and houseburn.

After you have succeeded in filling your house, then make your hands clear out the house completely. But you may in a great measure avoid trash, by leaving the old dead leaves in the field when you are engaged in hauling your tobacco to the house.

Housing, directly after a rain, is very bad policy; as the tobacco is then destitute of gum, which causes it to be very light, and it will not cure well. It is the better plan to wait two or four days after the rain, until the plant shall be again replenished with gum, unless it be late in the season, and an appearance of frost.

Firing.—I have already given you the theory necessary to be used in housing. It is now requisite to say something about firing the house above filled.

You should, on the following morning, make six or eight very small fires under your tobacco, just warm enough without blaze to make your house milk warm. Keep the fire in that state until you discover the tobacco to turn a light goslin green, or green yellow, and well wilted; that is, when the majority of the plant shall be of that color. Then have your larger wood taken into the house, and this dry elm or hickory and old rails, with some green wood. When your fires shall commence to burn clear, and without a smother of smoke, then will be the time to put on some green wood. But be very particular not to have much blaze. A mediocrity should be observed until the house of tobacco shall be completed; which may be done in from two and a half to four days from the time the fire is first put under.

Whilst firing tobacco, you must sleep but little; otherwise your fires will either be too large or too small, and thereby spoil the house. Recollect this maxim, that a good soldier will not sleep when on guard, neither will a good firer of tobacco.

It will be well when you have completed firing your house of tobacco, if the weather may be very dry, for you to sprinkle over the floor one or more barrels of water, and thereby bring the tobacco in order to remove out of your firing house to your re-hanging house; which will contain four times as much tobacco as the house in which you fire, admitting it to be of the same size.

The re-hanging or *stoving* houses should be made pretty close, as much atmosphere is injurious to fine yellow tobacco, both in weight and color, and will change a deep yellow to a dingy red, by being much exposed.

In regard to firing in your *flue houses*, you should pursue the same course as in open fires; but be very careful to have your degrees of heat or temperature well ordered.

And you may have your tobacco much earlier in the season, if you cure in the leaf. I would recommend you to commence housing as soon as the bottom or ground leaves begin to ripen. You must have a very careful hand to snap the leaves from the stalk; and he must also have pretty good judgment to know what to take off when snapping leaves. You can string on twine or on very smooth, shad sticks, but I would prefer the sticks with sockets as aforesaid.

When you finish firing a house with flues and in the leaf, I would recommend you to have a very dry place to remove your tobacco into, and you will find that if your tobacco has been well killed in firing, that it will be good policy to take the same off of the sticks, place it in a very neat bulk, and let it remain

so until you wish to house it. I prefer tobacco cured in the leaf, and with flues to any other mode yet known. It is evident that you will find it more tedious and expensive; but the additional weight and superior color of your tobacco, will well recompense you for the extra expense or tediousness of the process. Be very particular when firing your crop all-ways to have each and every house well killed, and the stems perfectly dried out, thereby avoiding all loss by mildew, rot, or mildew; either of which would lessen the value of your crop much.

Assorting and Hanging.—I now suppose your crops thus far secured. The next question is how are we to assort and hand the same?

If you should make a good and proportionable crop, I would advise you to make four sorts, namely, a good yellow or fine, a *h-midome spangle*, the third a fair or clear red and red *spingle*, and lastly, a green. In all cases have your hands uniform in color and length, and put from twenty five to thirty leaves in a hand, and wrap with a good leaf, nearly or quite covering the heads of the hand, always commencing with the wrapping leaf, turned inside out, and with the but-end, and finishing with the tail, making all uniform. Let me assure you of one certain fact, and that is, there is more depending on the manner in which you assort and manage your tobacco than in the quality; and a good or bad sale greatly depends on proper management through all the different processes.

That which you strip through the day I would advise to have placed on neat shaved sticks, say with the heads two inches apart, and not too nearly filled to the ends of the sticks; and if this tobacco should not be too very soft, I would recommend you to have the same put in bulk, say not too large, the tails inward and heads outward, thereby giving the heads and shoulders of the tobacco an opportunity to dry. But should the tobacco you strip through the day be so soft that it will clam in hanging, in that case you had better hang the tobacco up for a few days, so as to prevent injury when in bulk. The above mode of bulking is what I call the *stripping or first bulk*, and only calculated to remain in that situation for a short time, or until you get done stripping. If you find it is not likely to injure, which you can easily discover by once a week examining, by raising the bulk and inserting your hand, and if you find the tobacco sweet and cool, it is in good order, and if you discover your tobacco to be getting in a sweat, it will be best to hang it up forthwith, and by that means save your crop from rotting.

Conditioning or Qualifying Tobacco.—I would advise all planters when it is their intention to qualify by air, to let their tobacco remain in first bulk until the last of February, or the first of March; then if the weather has an appearance of being settled, hang up your whole crop, if you have it stripped, or have room; placing your yellow in the roof, your green next, spangle following, and the red below. Let your tobacco remain hanging until you can take a hand of tobacco in your hand and with ease break it short off, at the head, shoulder, or any other part. Now I would just observe that if the weather should be quite favorable for drying tobacco, that your tobacco will get in the above state in from ten days to three weeks, at farthest.

The next thing for you to know, is how and when to take down your tobacco? Have your bulking places raised off the ground from two to four feet, owing to the situation of your house, and eight feet wide, or according to the size of your crop; and put your tobacco down in double bunches, that is, twice the length of the sticks. And just as the leaf begins to toughen, so as to admit of bending, and the head and stems break freely, is the order in which to put your tobacco in bulk; what I term as it comes in case. And when put down in the above order, the tobacco, if packed in a suitable time, will be in *shipping order*.

A second mode of qualifying is by your flues, which

may be done in two or three days quite effectually; and your tobacco when well dried, will admit of being taken down somewhat *softer* than if qualified by air; and will also stand the test if packed at any season of the year. Just proceed as though you were firing a house of tobacco, only not quite as strong fires as your large fires, when firing green tobacco. The proper order to pack your tobacco in, is when the tobacco can be handled without breaking or crumbling too much; in short, when it is in a *spongy* state in respect to the leaf, and the stems, and heads break pretty freely. Or if in August, you can venture to pack when your tobacco is pretty soft.

Hogsheads.—You should have your hogsheads made of the following dimensions: say four feet two inches in height, and three feet three inches in diameter, with as little bungle as possible. The heading should be about three-fourths of an inch thick, and the staves scant half inch, and from four to five inches broad. The preferable timber for staves is poplar, gum or sycamore, three eighths of an inch when completely kiln-dried; and indeed all the stuff should be well seasoned before the hogsheads are put up.

Fellow planters, permit me to assure you that I conceive the above treatise on tobacco as full an illustration on the growth and management of that article as is necessary to enable any man of moderate capacity to go through with the whole process with success; and I have been actuated by the purest motives for the promotion and welfare of that part of the community who may particularly wish to turn their attention to the tobacco business either as growers or purchasers. This article has unquestionably become one of the first in importance in Ohio; and will, this present year, circulate near three hundred thousand dollars, in our western country.

Another good effect tobacco has produced, has been the bringing into market a large portion of our southeastern section of congress lands, thereby affording a revenue to government, and homes to hundreds of poor individuals who have for many years until the introduction of tobacco in Ohio, been living in a state of almost abject poverty and want.

In truth, I have for a number of years been engaged in the tobacco trade pretty extensively as a grower, firer, stripper, qualifier, seller and buyer, and can assure you that I am fully aware of all the difficulties in the different processes of the tobacco business and trade. And I think that should any person or persons wish to engage in the culture of fine tobacco, that in all probability he or they will be benefitted by having one of these treatises on the subject before him or them.

(From the Southern Agriculturist.)

ROTATION IN RICE LANDS.

There is no drawback, Mr. Editor, to which the rice planter is exposed; which surpasses in magnitude that resulting from volunteer rice. It germinates with the planted seed, submits kindly to the labored tillage bestowed upon the latter, participates without scruple in the attentions designed for its legitimate compeer, keeps up delusive show of waving fields and joyful harvests; and it is not until the rice has shot forth its ear, that the dismayed cultivator looks out upon the fields whitening beneath his eye, and is left to reap a full crop of disappointed expectation.

Almost every other difficulty of the rice culture may be obviated by good trunks, good banks, good drains, and good tillage; but against volunteer rice, these preparations constitute no effectual measure of prevention. The processes of turning, ploughing, and possibly of draining,—all so essential to the successful culture of the grain,—contribute to aggravate the evil. If the land be infested, the finer the tilth, the more abundant the volunteer.

Various are the remedies which have been suggested for the abatement of this nuisance; and though I acknowledge, that if they be rigidly pursued, it may be commonly kept within bearable limits, still they

do not effect radical cures. Flowing after harvest, the exclusion of cattle from the fields, burning the stubble, and exposing the waste rice to the birds; hand-picking the seed, turning and ploughing as rarely as possible, planting in a deep trench, covering lightly, and hoeing carefully, are a part of the means usually employed to mitigate the evil. It is notorious, however, that notwithstanding the diligent employment of all these measures, volunteer rice will not only maintain its position, but will go on increasing from year to year.

It is admitted, by planters, that a change from rice to some dry culture crop will effect a radical cure. But to this the objections are, that the production of the field in rice for one entire season must be lost, that the high ground crops rarely succeed in the swamp; and thirdly, that there will be the labor of cultivating the land without any immediate remuneration. Being firmly persuaded, Mr. Editor, that with proper precaution, such need not be the issue; and thinking that a detail of my experience on this subject, may possibly be beneficial to some one whose lands are infested with volunteer rice, I have been tempted to send you the following history of a small swamp field, which for the last four years has been in dry culture.

Square No. 8 was planted in rice in 1828. During the winter, the stubble was burnt off. In February, 1829, the field, without any farther preparation, was trenched and planted in oats. They were hoed in April, and harvested in June; early in July, the field was planted in slips, which were dug at the usual time. The product in neither case was measured, but in both instances it was small.

Not being discouraged by this failure, and believing that it arose not from any incapacity of soil, but altogether from defective tilth and defective drainage, I proceeded, early in the winter of 1829, to place a new trunk in the square, to open some additional section drains, and to deepen its marginal ditches. On the 24th of December, 1829, No. 3 was again sowed in oats: they were hoed only once, and though attacked and injured by the May tides, the product was forty-seven bushels per acre. At the spring tides, on the 25th of June, the land, being thrown into good beds, was again planted in slips. These were gathered in November, and the product ascertained to be one hundred and forty-five bushels of large potatoes to the acre. I ought not to omit mentioning that the oats grew about five feet high; that they were thrown by a squall of wind in May, and became much entangled; that the losses in harvesting them were very heavy, and that there is no doubt the actual production was over fifty bushels per acre. The quantity wasted was so large, that the surface of the beds, after the land was planted in slips, became perfectly green from the sprouted oats.

On the 15th of February, 1831, No. 3 was again planted in oats. They were hoed once in April, attacked fiercely by the rice bird in May, harvested in June, and the product was forty-five bushels per acre. It is notorious, Mr. Editor, that the spring and early summer of 1831 were extremely unfavorable to the oat crop; for, after the heavy rain of the 15th of April, there was no rain of any importance until the middle of June, and this long period of heat and drought was exceedingly injurious to that crop every where on the high lands. During this season of suffering, my oats were kept in a state of the most vigorous growth, by occasional floodings. It was my practice, about once a fortnight, to admit the night tide to flow on, and then to run off immediately; and, during the severity of the drought, this was done for several successive nights. That there might be no risk of scalding, the day tides were carefully excluded.

In July, 1831, No. 3 was planted in slips; owing to the difficulty of procuring vines, a portion of the field was not planted until the very last of that month. Upon gathering them in November, the product was a hundred bushels of large potatoes per acre, exclusive

of seed. This was much less than I had anticipated. Had the square been planted as I wished, at the last spring tides in June, I have no doubt the produce would have equalled that of the preceding year—say one hundred and forty-five bushels to the acre.

And here, Mr. Editor, I would state, that the mode of planting slips in the swamps, differs from that pursued on the high ground. In the swamp, we plant by tides, and not by showers. Just before the spring tides the field is well listed; and, as this cannot be neatly done if there be much stubble, it is our rule to cut the oats as long as possible. As soon as the tides come, they are admitted for three or four nights in succession, and in the day we plant our slips. I would remark further, that to promote the setting of the slips, it is our practice to haul them up as soon as they are planted; and this operation is so important that it should on no account be postponed. Our rice lands consist of a heavy loam; and even under the best drainage, when thrown into potato beds, the tops of the ridges will contain a large admixture of clods and lumps. It is in this rough mass, which cannot lie compactly, that the slips are planted; and should we neglect to fill up the interstices of the clods, by a speedy hauling up, the atmosphere will penetrate the bed, gain access to the vines, and exceedingly endanger the setting of the crop. By postponing or omitting this operation, we shall, to say the very least, prevent the slips from starting vigorously; and when this occurs, the crop will inevitably be curtailed.

In the preceding part of this article, I expressed my firm persuasion that high ground crops could be successfully grown in our tide swamps, and I think have advanced facts which fully warrant that opinion. An objector may, indeed, say that I did not succeed the first year. To this, my reply is, that the failure evidently arose from want of tilth and want of proper drainage. My subsequent success fully demonstrated, that these were the sole impediments to the successful cultivation of the upland crops in our rice swamps.

I am aware the opinion prevails, that these dry culture crops do not succeed well in our tide lands; and I can only account for this impression by supposing that the experiments have been made in fields not in proper condition. It is the practice, with many rice planters, to throw out for a year or two, squares much infested with volunteer or water grasses; and in these, without any proper preparation, some of the upland crops are occasionally attempted. Failure in such a case is inevitable; and it is possible that the general prejudice existing on this subject, has arisen from experiments made under circumstances thus unfavorable to success.

It may be asked what mode of preparation is deemed the best for lands which have been in rice, and which it is proposed to try in dry culture. At the risk of being tedious, I will answer these inquiries by stating the treatment designed for square No. 1, now in rice, but which I propose, on account of volunteer, to plant this coming year in oats and potatoes. Being admonished by my former failure, that without deep tilth and good draining, there will be no chance of success, I propose, as soon as my fields are gleaned, to have the square deeply broken up. My next step will be to deepen all the drains, both large and small; to cut new ones, if found necessary; and to place, if need be, the trunk down to low water mark. These matters I shall execute as early as possible in the fall; and I confidently anticipate, that the pulverizing influences of the frost and deep draining, will give me the requisite degree of tilth. Should the winter be dry, I shall occasionally throw a tide over the field; so that when the frosts do come, they may not find the surface entirely destitute of moisture. In February, I propose harrowing, and on the 15th of that month sowing in oats. The after treatment will consist of two hoeings instead of one, as heretofore, and a liberal application of night tides. As it is my sincere wish to give useful information, and not to excite delusive hopes, I will add, that as no winter preparation can

be equal to one year of dry culture, I do not expect that the production of the first year will exceed thirty-five bushels of oats, or one hundred bushels of potatoes per acre.

The foregoing details, Mr. Editor, may possibly be valuable to some of your readers, whose lands are infested with volunteer rice. I would say, to any one disposed to make the experiment, that if circumstances will not permit the land to be placed in the finest condition, I would certainly dissuade from the attempt. Where the land is in fine order, the benefits resulting from the rotation will be numerous, as well as enduring. Two valuable crops may be taken from the land in one year. All sorrows arising from the long culture of rice will be totally removed; the texture of the soil, for years to come, will be bettered by being made more porous and less adhesive; and, what is of the greatest importance, volunteer rice, water grasses, and noxious weeds, will all be effectually exterminated. The ensuing year, the field, having been thoroughly cleansed by these fallow crops, will be in the finest possible condition for the rice culture; and, if planted with pure seed, will give the planter not only an abundance of seed for himself, but possibly a surplus, for which there is always a fair price and a steady demand.

PRAIRIE.

(From the Genesee Farmer.)

UTILITY OF FREQUENT PLOUGHING.

In a communication from the well known pen of that able writer on agriculture, DAN BRADLEY, Esq. in the fifth number of the Genesee Farmer, he suggests the idea of commencing ploughing in the fall and continuing it until the next fall, for the purpose of destroying Canada thistles, and then sowing the land so ploughed to wheat; and thinks that it is not unlikely that the extra labor will be amply remunerated by the greater value of the crop of wheat. If that be correct, that the land will be better fitted for a crop of wheat by tilling it for the term of a whole year, then it remains to be ascertained how long it might lie and be tilled to good advantage, or how long it would continue to improve by such management, and whether it is the frequent ploughing or the length of time of lying without a crop, or both together, that produces the fertility, and what are the immediate causes.

I have supposed that if the ground were ploughed sufficiently to mellow it, and mix all the vegetable substance it contained well with the soil as speedily as possible, and the wheat sowed before the vegetables commenced a decomposition, that it was then in the very best situation for a crop of wheat that it could possibly be. The whole of the vegetable substance it contained would then be placed in the best possible situation to afford nourishment to the plant as soon as the roots commenced growing, and would probably begin to decay nearly or quite as soon as it would be needed; and the most substantial part of such vegetables (which I suppose are the roots) will remain to support the plant after the more tender parts have been exhausted, and they will keep the soil sufficiently loose, so as to let the roots extend without much impediment. If this theory be correct, then it will follow, I think, that wheat may be sown immediately after wheat, or any other crop, if the land be sufficiently mellowed and well mixed with the vegetable substances; and in this way two crops might be raised in the same term of time that would produce one by following the other course of husbandry.

Summer fallowing green sward undoubtedly fits it well for a crop of wheat. It is most generally ploughed up in the fore part of the summer, and then ploughed two or three times subsequently before sowing, which gives the grass roots time to decay sufficiently to afford an opportunity of mellowing it and mixing them with the soil, and probably they may be in such a state of decay, and so situated as to afford as much nourishment for the crop of wheat as it would do in any state of decomposition.

I have seen very good crops of wheat raised on green sward which was only turned over once, and that shortly before sowing the wheat, which was harrowed in, and only mellowed on the surface. In that case, the land is not mellowed at all, except on the surface, and probably not as deep as the roots of wheat will extend. If the grass roots in that case decay soon enough for the roots of the wheat to take their place, then they will afford it nourishment at the same time that it is musing room by such decay for the roots of wheat to extend. It is generally believed that decayed vegetables afford food for plants, and I am of the opinion, that if they can be so placed in the soil as to keep it loose, so that the roots of the plant may easily spread, and at the same time be placed, when in a state of decay, where they will come in contact with the roots and afford the plant nourishment, that the object of cultivating the land so as to procure the best possible crop is accomplished. I do not know that ploughing land for a year, or a number of years, without a crop, will not continue to increase its fertility; but I have given my views of the subject, that those who are better able to do it justice than I am may take it up and give it a thorough investigation. It is undoubtedly of some importance that it should be done. C.

HORTICULTURE.

(From the Genesee Farmer.)

VEGETABLE PHYSIOLOGY.

Professor LINDLEY, in his lectures which formed the subject of my late communication, lays it down as an axiom, that flowers and fruits "are only stunted branches, produced by accumulations of sap, or in fact, by partial disease or imperfection in the circulation." Whatever tends to retard the descending or elaborating sap, in the fruit tree, induces blossoms, and consequently fruit. This may be either ring-barking, ligatures, wounds, or bent or crooked branches. The best means within the reach of the gardener, are found in judicious pruning. Those who select straight upright growing trees, or train them so by cutting off the horizontal branches, with a view of gratifying the sight, are often disappointed in their expectations of realizing early or abundant crops of fruit. The aliment which the roots take from the soil and elaborates by the leaves, goes merely to increase the volume of wood. A crooked tree, although less thrifty, generally produces earlier and is a more abundant bearer, than a straight one. Fruit trees growing wild, or which are neglected to be pruned, are much less productive than those which are cultivated, or judiciously pruned. This is particularly remarked of the grape, the currant and the gooseberry. The object of the cultivator should be, to give the branches of his fruit trees a horizontal or oblique direction, which causes somewhat of a stricture at their intersection with the bole, and thus retards the free descent of the sap. This is one object of training trees to walls, that their branches may be preserved in a horizontal or oblique direction. And it is this law in the vegetable economy which has suggested a new mode of training, denominated *en queueille* (distaff form), which is done by bending and tying the branches down in a drooping or inverted position. The professor relates a case of a stone being successfully placed in the crotch of a tree, which, by pressing against the vessels of the descending sap induced fruitfulness. It is a good way to direct fruit trees, at a proper height, of their leading shoots, and train them low and flat. Forest trees, on the contrary, where the object is ornament or timber, require to be trimmed with a straight clean bole, preserving, however, at least one-third of the height in top, lest you too much diminish the foliage—for leaves make roots, and roots make leaves.

This trait in the vegetable, has a familiar analogy in the animal economy. The food that is consumed

by the cow, is secreted either in flesh or milk. If she is a good milker, she seldom takes on much flesh, without extraordinary keep; and if she grows remarkably in flesh, she is but a bad milker. We cannot have an abundance of milk and meat from the cow, nor of wood and fruit from the tree. By the way, speaking of cows, recalls to my mind a conclusion which is the result of some observation and reflection, viz: that taking into account the expense of keeping and the product, the little Dutch cows of N. York are superior to the improved breeds on the score of profit, for dairy purposes. They are probably of the true Holstein stock, introduced with the first Dutch settlers from the Faderland. B.

(For the American Farmer.)

BUFFALO BERRY OR SHEPHERDIA.

The notice of the Buffalo berry tree (*Shepherdia argentea*) in a late number of this journal, took my attention. I have not yet procured this plant, but have it at the head of my list of desiderata; and I therefore wish to inquire in what manner it is propagated? As this species is dioecious, I presume it will be necessary to have a pair of trees if we expect to have fruit, unless scions of one kind are engrafted on the other. But I do not discover how the purchasers of seedlings that have not flowered are to escape disappointment.

It appears from Professor Nuttall that this tree is found on the banks of the upper waters of the Missouri, even to their sources; and consequently it will be perfectly hardy in this quarter. He estimates the height of those trees (or shrubs) in their native localities from twelve to eighteen feet; and as one at Boston has already attained the greatest of these altitudes, I infer that they do not deteriorate in the eastern parts of the United States. According to Loudon they had not been introduced into England in 1829.

Another species of *Shepherdia** (*S. canadensis*) grows on the shores of our lakes, commonly on hard clayey banks above the reach of the water. In Loudon it is called an inellegant shrub to which I do not subscribe. Nuttall considers the fruit scarcely edible. It is rather difficult to transplant it with success from our shores, chiefly on account of the scarcity of plants of a suitable size; but when established, it grows well in garden soil. I think it merits a place in shrubberies. D. T.

12th mo. 10, 1832.

PRUNING ORCHARDS.—We have observed that some of our farmers have already commenced this operation. To such we would say, you are not four months too early but eight months too late. May is the proper month for pruning orchards in this latitude. Apple orchards should be moderately pruned every year, as too much pruning at one time is not good. In pruning young plum and cherry trees never cut away the spurs, as these produce the fruit. With peaches reverse the order, and cut away old wood and reserve the most thrifty shoots, as these produce the finest sized peaches. Unlike many other kinds of fruit, the flower buds will be found upon strong shoots of the preceding year's growth. In many instances such shoots may be shortened to advantage, and after the curculio has ceased to puncture them, the wounded ones should be picked, and others thinned where too many remain.—Gen. Farmer.

The Burnopfield carrot-show was held at the house of Mr. Thomas Rippon, on the 3d inst, when the prize was awarded to Mr. Robert Gray, for a carrot weighing 34 pounds. There were also some extraordinary potatoes exhibited, one of which, grown by Mr. Jewet, of Ebchester, weighed 504 ounces.

(Newcastle (Eng.) Chron.

* *Hippophae canadensis* of our older botanists.

[The difficulty is, how are we to cut away the old wood without taking the young with it?]

RURAL ECONOMY.

PARKINSON BREED OF HOGS.

Lucky Hit Farm, near White Post,
Frederick Co. Va. Jan. 26, 1833.

MR. SMITH: In October last, I promised you a portion of my experience, as a new year's present, in reply to a call for information, in relation particularly to the Parkinson hog, and generally, where discriminate breeds of any kind have been distinguished for their usefulness. The manner in which the call was made entitled it to more success than I fear it has received as yet. However, it is not too late for your friends to remember your earnest solicitations to procure information to diffuse amongst your subscribers. I do not presume to come forward with much hope of saying or doing any thing that will materially help the cause, especially when I recollect that I have been laboring, for many years, to raise the reputation of an animal having more powerful claims to the patronage of the public, and a far greater general connection with the deep and diversified interests of our common country, with very limited success; and when the kind sympathies of state relationship shall be frittered down to mere matters of form amongst us, (which God forbid, though awfully threatened,) then will our stimulus for improvement be in proportion to the diminished love and respect we cultivate towards each other. Reasoning by this kind of comparison, we might fear a total failure in recommending some plans for the improvement of the humble, though universally useful hog, if it were not well known that mankind are not less engaged in the indulgence of their appetite than in the comfort and pride of their apparel. But there are some very material points in your appeal to us farmers, who too often stand directly in our own light, and reject it most ostensibly, as if it were darkness and error, that I must take the liberty of lightly touching in its proper place. With an intelligent and highly respectable correspondent of mine, (an Englishman,) in Fairfax county, Va. you are at issue, in regard to the kind of hog introduced by Parkinson. He says: "No man has been more unjustly spoken of than Parkinson: he was an honorable man—my neighbor and friend. I have often heard him relate his adventures in the United States. The hogs he brought were not Bedford pigs, but Berkshire. It is all a fudge about the Duke of Bedford and his pigs. They were black; (that is, the Duke of Bedford's pigs were of a black color,) but the Berkshire are all black and white, or black and sandy; as are the Parkinson pigs to this day. I have often heard him mention them. The duke had his pigs from Mr. Weston, of Sussex, and named Sussex hogs; but the best hogs in England are called the White China. I have seen their necks, at the back of the ears, rise up so high as to hang over their eyes and prevent their seeing; and so fat, with bones so small, that they could not rise; and my boy had fed them for six weeks together, as they lay on their side, by putting the food into their mouths with his hand. Weight about four hundred. Nothing could exceed these hogs."

To this authority, let me add, for the information of farmers, some extracts from *Dickson's Farmer's Companion*,—a valuable work, imported for me, some sixteen years since, by that distinguished farmer and revolutionary patriot, Judge Peters,—that our breeders may be enabled the better to discriminate between the offspring of the different British breeds which have been imported into this country. Though I am inclined to believe there is but little certainty in tracing any of our breeds up to the original stock, so pertinaciously contended for by many who have partialities and prejudices, for and against this, that, or the other breed; because it appears that, when certain breeds have established a very high character under some distinguished leader, critical and influential breeder, they are thenceforth dispersed, and crossed on all the inferior breeds of the kingdom; when they, in their

turn, having succeeded in raising up a peculiar race through the minute observation of some more talented breeder, claim a victory, and are prepared to renovate by a cross on their recent improvers, to save them from that degeneracy which, I believe, will be an inevitable attendant on a system of in-and-in breeding, under certain circumstances.

Query.—How far will a change of climate and food, with a careful attention to selecting, occasionally, such animals as are seen to differ in some degree from the general race, but clear of material faults, go to the extension of any particular breed, and prevent the occurrence, as it is commonly said, of a breed running out?

EXTRACT—SWINE.

"These are a kind of live stock that bring great profit to the farmer, when proper attention is bestowed on the breeding, rearing, and other management. The well-formed hog should not be too long, but full in the head and cheek; thick and rather short in the neck; fine in the bone; thick, plump, and full in the carcass; full in the quarters; fine and thin in the hide; and of a full size in proportion to the kind, with a disposition to fatten well at an early age. The breeds of those animals are very numerous, as almost every district is in possession of a different sort. Of the larger kinds, the most valuable breeds are probably the following: the Berkshire breed, which is distinguished by being in general of a tawny or reddish color; spotted with black; large ears, hanging over their eyes; thick, close, and well made in the body; legs short, and small in the bone; disposition to fatten quickly. This useful breed has extended itself, from the district which furnishes its name, over most parts of the island. It is the breed most fattened at the distilleries: it feeds to a great weight, and is good for either pork or bacon. The Hampshire breed of hogs is very large, being longer in the body and neck, but not so compact a form as the Berkshire. They are mostly of a white color, and are well disposed to fatten, coming up to a great weight when properly managed.

"The Shropshire breed is another large sort of hogs, which are found valuable where the keep is in sufficient abundance for their support. They are not, however, so well formed as those of the Berkshire kind, or equal to them in their disposition to fatten. The Gloucestershire breed is likewise a large breed, but inferior to either of the above, being tall and long in shape, and by no means well formed. The color is in general white. Mr. Marshall supposes this to have been formerly the prevailing breed of the island. It is supposed to be thinner in the skin than the Berkshire breed. These are not to be mistaken for what we call the English hog in the United States—hard to keep fat on much food—when poor, forming a serpentine in their lazy progress.

"The Herefordshire breed is also a large useful breed, but without possessing any advantage over those that have been mentioned. It is remarked, by the author of the Survey of Middlesex, that the largest breed in the island is supposed to be kept about Rudewick, on the borders of Sussex and Surrey. They feed to an extraordinary size, and weigh at two years old nearly double or treble the usual weight of other sorts of hogs of that age. As large breeds pay the farmer the best in many cases, such a breed deserves to be attended to.

"Among the smaller breeds of these animals there is much variety.

"The Chinese breed is distinguished by the neck being thick, the body very close, compact, and well formed, the legs very short and the size small; the flesh delicate; the color various, as white, brown, black, and tawny. This breed is particularly disposed to fatten in an expeditious manner, and has, in consequence, spread over a great part of the kingdom. It is the most adapted for being used as pork, but is much too small for being cured as bacon.

"Another breed of the small kind of hogs is met with in many districts, it is of a white color, thick compact, and well made in the body; short in the leg; the head and neck well formed, and the ears slouching a little downwards. It is well disposed to fatten and perfectly hardy.

"The swing-tailed breed, is a useful sort of the smaller kind of hogs, being hardy in its nature and of considerable weight in proportion to its size.

"Some farmers prefer mixed breeds, as being more beneficial, than either the large or small perfect breeds. Where this is the case, the Berkshire, with a cross of the Chinese, has been found a very profitable sort, as being capable of feeding to a considerable weight, with a moderate portion of food. A sort kept by Mr. Western in Essex is likewise found valuable.

"In order to have hogs of the most perfect kinds the same attention should be paid in the breeding of them as in other sorts of animals, by selecting the most perfect and best formed males and females of the several breeds, and carefully raising the stock from them. Those intended to be kept as sows and boars should be constantly well fed from the first, as when they are pinched for food they are never so fine or healthy afterwards.

"The breeds of hogs, like those of other animals, should be provided according to the nature of the keep. Where it is abundant, or cultivated solely for the purpose of the raising of pigs, the large breeds will mostly be found the most advantageous, and the difference in the proportions between the living and the dead profitable weight is said by some to be always the least in the largest sized animals.

"It is of the utmost importance in the management of swine, both in the view of economy in the labor of their attendance and the raising of a large proportion of manure as well as the advantage of the hogs, to have convenient sties or piggeries. The method of constructing them with their relative advantages are of singular importance. To annex a certain space of grass or artificial grasses, in divisions, into which the hogs may be let at pleasure, is an additional of admirable use if the spot permit it. Those who do not possess a convenient pig-apparatus can have but little idea of the great use of it in making manure. This alone becomes an object that would justify any good farmer in going to a certain expense for attaining so profitable a part of what ought to be his farm-yard system. In nine-tenths of the farmeries in the kingdom it is lamentable to see so many parts of a right piggery scattered and unconnected, in such a manner as to preclude convenience, increase labor, and prevent the making of dung. A great mistake seems to have been committed by farmers in the management of hogs, from the supposition that they can only be kept with profit in so far as they may consume the materials that would otherwise be wasted. There cannot however, be any doubt but that swine will pay for their keep as well as any other sort of live stock, where a judicious system of cultivating crops purposely for them is pursued.

"Swine are subject to a variety of diseases; but few of them have been sufficiently investigated to ascertain the proper means of cure. Much exposure to cold is liable to bring on affections of the lungs, by which the animals gradually decline, and waste in the flesh, having a frequent husky, dry sort of a cough. Warmth, with good keep of the less dry and heating kinds, would seem to be the most advantageous method of removing such complaints."

It will not be expedient at present to make further extracts from this valuable work; but it may be well to say to those who have tracts of land, (and there are many who have such who never dreamed of improving them in the manner designed to be most profitable by their Creator,) that they must have recourse to books to improve them to advantage, both in their cultivation and simple architectural fitness for swine raising. It is a serious fact that many farmers are raising pork and bacon for sale who should never raise a pound

beyond their domestic consumption; while others, with tracts of land adapted to their profitable production, are forcing nature in the cultivation of some precarious crop, which, in a term of years, will produce debt instead of profit. Instance a farm with a portion of rich bottom, uncertain in wheat or any small grain crop, but highly productive in a variety of vegetables, calculated to sustain a piggery.

The editor of the American Farmer and the author of the Farmer's Companion (Mr. Dickson) well coincide in their opinion in relation to the profits of hogs. For fear the valuable remarks of the editor have already been forgotten,—for repetition, as well as line upon line and precept upon precept, will altogether be hardly enough to stimulate the doubting, delaying and infidel farmer,—we will briefly recapitulate some of his facts and arguments.

"While the hog contributes more to the larder than any other animal, and is indeed the most profitable of all stock when judiciously managed, it is the most neglected of all. If a good breed be obtained, it is soon allowed 'to run out' by inattention and bad selection from the same breed. For it must be remembered that any breed of animals, however good originally, if the best and finest formed are not selected as breeders, will soon degenerate. The most general fault is the carelessness of obtaining good breeds."

"In 1828 the editor obtained from New York some fine pigs, and desired to let some one have them who would attend to them; but he could find no one who would pay their expenses and take them, although all confessed they were every way superior to any breed amongst us. Having no means of keeping them ourselves, we were obliged to sell them to a man for killing, and he willingly paid us more than they cost us, even to make pork of."

Should we not be ready to cry out, O shame, shame to us farmers, for suffering such murder, for permitting such an opportunity to escape for improving our hogs! But we are glad to hear that the editor will persevere in further attempts, and inform his friends when successful.

"Many persons suppose that one breed of hogs is as good as another, and therefore pay no attention to the matter." This reminds me of an occurrence, happening some twenty years since. Seeing one of my neighbors with a most degenerate breed, I begged him to accept of a young boar. He thanked me kindly, but observed that "he reckoned that his hogs were as good as mine." One of his sons being in company, observed that he would accept the offer with pleasure. But the old gentleman,—whose faith was infinitely stronger in more important matters than in stock improvement,—defended his breed of hogs from all imputations, and looked upon his son as rather an intruder on common sense matters. However, the pig was sent for, and in two or three years the old man ingeniously acknowledged his error.

I have already lived long enough, sir, to witness prejudice after prejudice dismissed, by a succeeding generation in the employment of agriculture; but there is a wide, wide field for improvement still, and when talents come to be employed as faithfully, zealously, and industriously, I would have said ambitiously, if the term could well apply to an ennobling and virtuous pursuit, as they have been to perfect the professions springing out of the vices of mankind, then, and not until then, will agriculture be regulated by the rules of reason and wisdom—the extremes of opinion and prejudice will be cast away—simple truth will be brought to the aid of truth—the earth will perform its functions under the guidance of better experience and enlightened philosophy—its animals all occupying their proper places, under the control of the improved reason of man; repaying by their improvement his attention to their wants and comforts, who finally surrender their all to his mercy and convenience. Pardon me, sir, I have forgotten myself. The hogs of this old gentleman were just such as you go on to describe, eating more corn than

their carcasses would sell for, while others required no more feeding in the summer than a good pasture would afford, and not more than a fortnight's feeding with corn to make them cut three inches on the ribs. Again we have seen hogs that would only attain to a hundred pounds weight in twelve months, and others that would weigh 200 and 300 pounds in the same time, and on the same keeping. Again, we have seen hogs, whose long faces, long legs, long ears, and long bones, weighed as much as all the rest of the carcass; and others, whose ossals were exceedingly small; and the former would consume three times as much corn in preparing for the knife. And now, says the editor, after enumerating a number of important qualities to enhance the value of improved breeds, is there not a very great difference in their value? We say, from experience, yes, in this quarter of our country, and making every allowance for the zeal of the editor, which might be supposed to be theoretical, we propose to shew, by facts, that he is substantially and materially in the right, sometimes even under the truth. He next alludes to the hogs of Mr. Barnitz, a cross of the China breed on the Chester County Hog, weighing at a twelve month, more or less, from 200 to 250 pounds, and doubts whether they are not perhaps superior to the Bedford breed so called, and winds up with an earnest solicitation for useful information on the subject. The liberty is taken of referring the readers (and it is feared there are too many careless ones) of the American Farmer, back again to No. 27 of the present volume, for one of the most encouraging, exciting and stimulating papers it has ever presented agriculturists on that subject.

I had intended to have added other reflections to this introduction, but it may be very readily conceived how difficult it is to proceed with any ordinary matter, however interesting and useful, while the imagination is burthened with doubts and fears for the peculiar situation of our beloved country, not knowing how soon our peaceful agricultural pursuits, and the pleasure of devoting a leisure hour to a little scribbling about them, may be disturbed by the horrid din of war. But hoping for the best, and intending for the best, while doing our duty, we will endeavor to collect our thoughts and facts as speedily as practicable, to report to you the weight of our pigs, and the evidence in favor of the Parkinsons, &c. &c., by some of our successful and intelligent neighbors who are well known for their general progress in agriculture.

Respectfully, R. K. M.

(From the Genesee Farmer.)

FENCES.

The making and keeping in repair the necessary fences upon a farm is not only of vital interest to the farmer, but next to the purchase of his lands involves in many sections a heavy portion of his capital.

From the importance of the subject, much has been written and many experiments have been made to discover the cheapest and most effectual method of enclosing farming lands. As yet no one has been able to discover an effectual mode of doing this which can be applied in all cases and under all circumstances to equal advantage. Stone fences, where the materials abound upon the surface, is undoubtedly the cheapest for time, because it is the most durable; but stone fences have their inconveniences, as they harbor many small animals, which in some seasons multiply to that extent as to be very destructive to crops. But there is but a small part of the fine farming lands, now under cultivation in this or other countries, where stone can, at any reasonable expense, be procured. In the primitive formations, stones may be procured more generally than in the secondary, as they abound in mountains, at the base of which fragments of broken rocks may be found in any amount. These fragments, when laid in a wall, are not so apt to tumble down as boulders which are gathered free from

the surface. In most of the great secondary formation which covers western New York, most of Ohio, Indiana, Illinois and Michigan, stone in inexhaustible quantities may be found near the surface; these, when the present growth of timber shall have disappeared, will be found as invaluable as they are inexhaustible; but from the uniformity of surface, the quarrying of them will be attended with more inconvenience than where the country is more mountainous. In much of the above space of country, necessity has not as yet driven farmers to adopt this mode of fencing.

Most of the fencing in the above mentioned country is done with rails split from forest trees, and made either into crooked, post and rail, or stake fence.

The winter months are not only the proper time for selling timber for rails, but from the routine of business upon the farm, seems to be the most favorable season for making all the preparations necessary for repairing fences as soon as the frost leaves the ground in the spring. In preparing the materials for fencing, reference should be had to the manner in which the fence is to be built. The first fence generally, where new land is cleared, is the common crooked rail fence. Circumstances favor the making of this as the first. There is but few districts in which there is not an immense quantity of timber to be burned in clearing new lands; therefore, the extra quantity required in making crooked fence is no objection to it. Beside these, land, where fences are to be made, are full of stumps, which would require much labor to remove them, otherwise they would disturb the direction of the fence; but by slight variations in the positions of the different lengths, most of these may be avoided in making crooked fence. As this kind will probably continue to be the more common fence in our new countries, pains should be taken by every farmer to commence with an uniformity in length of the rails. Twelve and fourteen feet are the more common lengths to which rails are designed to be cut, but through carelessness of workmen, they may be found of all the intermediate lengths. This inequality is found a great inconvenience when fences require to be repaired, therefore the length to be used upon a farm should be established and never departed from.

Next to the crooked fence, post and rail, or staked fence, are introduced, either of which are undoubtedly better calculated as second fences than the pioneer or crooked fence.

For front fences there is more neatness in the appearance of post and rail than those made with stakes, but for cross and rear, stake fences are altogether more economical. The quantity of timber for these different kinds of fences does not differ materially, but for the former a superior quality is required, and it is more difficult to make use of old rails than when stakes are used, the ground occupied by either being the same.

In making stake fence, the timber for stakes should be cut seven feet and a half long, and split to about the size of common rails; they should be set in the ground about eighteen inches, and each pair of sufficient distance the one from the other to admit a rail between them. When the stakes are thus placed, a stone of sufficient size to raise the lower rail from the ground should be placed between them, on which to place the bottom rail, and proceed to fill up by placing the ends of the two adjoining lengths of rails alternately.

After the fence is about four rails high, a hole should be bored through the two stakes with an inch and a quarter auger, and a pin of good oak, or some other durable wood, drove through it, and the smaller end made fast by wedging. This pin should be placed so high that, as the stakes at the top of the ground will first fail, their length will be sufficient to allow them to be reset; and the lower hole bored in them should be at such a distance from the ground as will prevent its being brought to the surface on the second setting.

There should be two of these pins put through the stakes; the upper one only calculated to support the

two ends of the upper rails, which may be raised a little above the other, and thus a fence, with six rails, may be made the height of seven when allowed to rest upon each other. Such fence requires less labor for making than post and rail, by about the amount required to hole the post and sharpen the rails—is equally as durable as post and rail, and not more liable to be blown down by high winds.

(From the Farmer's Reporter.)

FEEDING CATTLE.

We leave the prosecution of the history and different breeds of cattle, for the present, in order to give room, in this number, for some remarks on the subject of feeding, or foddering, as the season has now commenced, in which it becomes necessary to feed stock with hay, or other prepared food. In our selections on this subject, we have consulted authors who have had experience in raising cattle.

"Cattle well summered," says Mr. Lisle, "are half wintered, that is to say, cattle going to their winter quarters in high condition will preserve a good plight throughout the winter; whereas, such as have been fed upon short commons during the summer, and go to hay or straw in a weak condition, are liable to become worse or even to drop off, in the winter, particularly if it be unfavorable.

"Every farm-yard, where any considerable stock is kept, should be furnished with a shed of sufficient dimensions to shelter the stock, under which should be placed a rack into which all the fodder should be put."

"Dr. Deane observes, that neat cattle and horses should not have so much laid before them at once, as will quite serve to fill them. The hay they have breathed on much, they will not eat up clean, unless when they are very hungry. It is best, therefore, to fodder them four times a day, at proper intervals."

Let your cattle, if stabled, have "fresh air let in upon their food, when it is too cold and stormy to have the windows open. What one sort of cattle leave, should be thrown to another sort. It is known to farmers, that what cattle leave in the barn, they will eat abroad in the open air, and most freely when it is laid on the clean sward or snow. Not only this, but the poorest straw should be given them in this way. What is left, will increase the manure in the yard."

St John St. Clair says, "straw given to stock, should be made use of as soon after it is threshed as possible; for if exposed to the influence of the atmosphere, it becomes either musty or too dry; and in that state, cattle neither relish nor thrive on it so well. If it must be kept a length of time for fodder, it should be bound in trusses (sheaves) in which state it is easier moved, lies in less room, and retain its strength and flavor longer than when loose; or it may be secured in a stack properly built, and trodden down and covered." Wheat or rye straw, cut fine, and mixed with a little corn meal or mashed potatoes, is excellent food for feeding cows or working cattle.

Judge Peters, President of the Pennsylvania Agricultural Society, in 1827, says: "Cut or chaff your hay, straw, corn tops or blades, or even your stalks, with a straw cutter, and you will save a great proportion, which is otherwise wasted, or passes through the animal without contributing to its nourishment. One bushel of chaffed hay at a mess, given in a trough three times in twenty-four hours, is sufficient for an ox or cow; a bushel of chaffed hay, lightly pressed, weighs from five to five and a half pounds. A beast thrives more on fifteen pounds thus given, than on twenty-four or twenty-five pounds, as commonly expended, including waste, in the usual mode of feeding. Salt your clover and other coarse hay; but over salting diminishes the nutriment. More than a peck to a ton is superfluous; half that quantity is often sufficient. If hay be salted by using salt in substance, it should be done at the time it is deposited in the

mow. Damaged or poor hay may be much improved and rendered palatable by sprinkling it with a solution of salt and water. Straw may also be made equal, at least, to poor hay, managed in this way."

Dr. Deane observes, that "we should take care not to begin to fodder till it is really necessary; because cattle that fodder will not graze so diligently. When it is once begun, cattle will expect it, and it must be continued. When we first begin, we should fodder early in the morning only; for at that time of the day the frost is usually on the grass, so that cattle will not graze.—The poorest fodder should be dealt out first. The husks and stalks of Indian corn are suitable for this season."

Straw and the worst hay should be reserved to give them in the coldest weather; for it is then that they have the keenest appetites. Regularity with regard to feeding cattle, is of more consequence than superficial thinks, s, who are not acquainted with the subject, can possibly imagine.

If cattle miss their customary meals, they will fret away more flesh in an hour than can be put on again in a week. Feeding cattle is like rowing a boat against a current; if you miss a stroke or two, you not only cease to advance, but are driven backwards.

Prices Current in New York, January 26.

Besswax, yellow, 18 a 20. Cotton, New Orleans, 11 a 13; Upland, 10 a 11; Alabama, 10 a 12. Cotton Bugging, Hemp, yd. 13 a 21; Flax, 13 a 14. Flax, American, 7 a 8. Flaxseed, 7 bush, clean, 15.00 a 16.00; rough, 14.00 a 15.00. Flour, N. York, bbl. 6.00 a 6.25; Canal, 6.00 a 6.31; Balt. How'd st. 6.12 a 6.25; Rhd city mills, 6.68 a 6.75; country, 5.75 a 5.87; Alexandria, 6.12 a 6.37; Fredricks', uncertain; Peters', new, 5.75 a 5.87; Rye flour, 4.00 a 4.12; Indian meal, per bbl. 3.75 a 4.00; per hhd. 17.50 a 17.75. Grain, Wheat, North, 1.19 a 1.20; Vir. 1.15 a 1.20; Rye, North, .88 a .90; Corn, Yel. North, .73 a .75; Barley, — a .75; Oats, South and North, .42 a .46; Peas, white, dry, 7 bu. 5.00 a 5.25; Beans, 7 bu. 1.00 a 1.05; Provisions, Beef, mess, 8.25 a 8.75; prime, 5.25 a 5.75; cargo, — a 5.00; Pork, mess, bbl. 13.00 a 14.25, prime, 11.25 a 11.75; Lard, 7 a 9.

A FINE JACK FOR SALE.

The Subscriber is authorized to sell a fine Jack of the breed of the KNIGHT OF MALTA and ROYAL GIFT, about six years old; a very powerful animal, a sure foot getter, very gentle and easily managed. Price \$200.

Apply to
I. I. HITCHCOCK,
American Farmer Office and Seed Store.

WHITE TURKEYS.

The Subscriber has for sale a few of the beautiful Milk White Turkeys, so much sought after for their picturesque effect in parterres and lawns. Price, \$4 a pair.

I. I. HITCHCOCK,
American Farmer Office and Seed Store.

GRAPEVINE CUTTINGS.

In a few days will be received and for sale at the American Farmer Office and Seed Store, a quantity of cuttings of the CUNNINGHAM AND WOODSON GRAPES. An account of the excellent quality of these grapes, both for the table and wine, will be found in the American Farmer, vol. xiv. No. 33, October 26.—The price of these cuttings is 8 cents each.

Also will be received, at the same time, a quantity of Norton's seedling grape cuttings. These grapes are said to be very superior to most native grapes.—Price 6 cents each.

Also a quantity of rooted Vines of the SCUPPERNONG GRAPE from North Carolina. The character of the Scuppernong Grape is too well known to require description. Price, for two year old vines 37 1/2 cents each, one year old 25 cents.

RED ANTWERP RASPBERRY BUSHES,

For sale at the American Farmer Office and Seed Store. Price, 12 1/2 cents each; \$1.25 per dozen; or \$8 per hundred.

I. I. HITCHCOCK.

SPLENDID PÆONIES.

Just received and for sale at the American Farmer Office and Seed Store, a few of the POPPY FLOWERING TREE PÆONY, (Pæony arborea papaveracea,) and of the TREE PÆONY, (Pæony arborea.) To experienced florists it might be needless to say a word about the great beauty of these plants; but the public generally may not be as well informed. A recent publication on horticulture thus describes the tree pæony: "In the gardens of China they cultivate an immense number of varieties of this splendid plant,—some of which are said to be sold as high as a hundred ounces of gold; and in so much esteem is it held by them that it is there called the 'king of flowers.'"—Prince's Treatise on Horticulture. Of the poppy flowering pæony the same work thus speaks: "The flowers of this plant are single or semi-double, but being of a pure white color, with a purple centre, they combine a delicacy calculated to excite great admiration; it is also more rare than the tree pæony, and it is but a couple of years since Messrs. Prince paid five guineas for a very small plant." Price of the poppy flowering pæony \$5 each, and of the tree pæony \$2.50 each.

BUFFALO BERRY TREE, OR SHEPHERDIA.

A small number of these splendid trees, natives of the Rocky Mountains, and equally desirable for their fruit, and their beauty, have just been received and are for sale at the American Farmer Office and Seed Store, No. 16, South Calvert street. Price \$1 each. Those who want them would better make early application, as the demand is great and the supply scanty.

I. I. HITCHCOCK.

STRAW CUTTERS, CORN SHELLERS, &c.

SINCLAIR & MOORE, offer for sale a variety of kinds of Straw Cutters, the Cylindrical of the following sizes and prices, viz. 11 inch box at \$27. 14 inch at \$45. 16 inch at \$55. 20 inch at \$75. The smallest (price \$27) will cut 300 bushels of straw one inch long per day, and is precisely the kind spoken of in the following note, addressed us by the proprietor of the American Farmer:

Gettysburg, October 2, 1832.
John G. Eliot, for whom we bought one of your Straw Cutters last year, writes me thus, under date of Sept. 20, 1832:

"The Cutting Knife answers well. I would not be without it for the price of two."

I have much pleasure in communicating the above, for I think the instrument well deserves the compliment thus bestowed on it. Yours, truly,
SINCLAIR & MOORE, Balt. I. I. HITCHCOCK.

The second size has cut, in the vicinity of Baltimore, seven hundred bushels per day, with manual power.—The third and fourth are capable of much more, particularly with horse or water power. These machines may now be expected to go into more general use, as they can be furnished at a more moderate price.

Also circular knife self-feeding boxes at \$20. Common Dutch box at \$7.50, and smaller size at \$5.

CORN SHELLERS, with vertical cast iron wheels, very durable and easily kept in order, which shell with great ease and rapidity, price \$20. CAST STEEL AXES, with a general assortment of AGRICULTURAL IMPLEMENTS AND GARDEN SEEDS.

FRESH GARDEN SEEDS.

J. S. EASTMAN, at No. 36 West Pratt Street, has just received a supply of Fresh Garden Seeds, imported by Mr. Samuel Ault, whose seeds have been so highly estimated by the public for many years past, and which he feels a confidence in recommending to his customers, whose orders will receive prompt and particular attention.

The public has been informed from another source, that I have parted with some of my late workmen in my manufacturing establishment; and while I acknowledge this fact, I would also inform the public, that their places have been filled with equally faithful and experienced workmen, who are fully competent to sustain the credit of my shop; and my customers may depend on my continued exertions to do them justice in materials and workmanship, and to afford my implements of husbandry on as reasonable terms as they can be obtained elsewhere.

Jan. 25.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—Business continues excessively dull in all articles of produce. With the exception of small quantities for immediate consumption, there are no sales of flour, and very few of grain of any kind. We do not alter our quotation of any thing, as there is no change, except in articles in which there is nothing doing, and of course the prices of such are nominal. Howard street flour continues to be sold by the millers; the dealers refusing now to pay \$5.50.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 8.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a —.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 2 hds. Md.; and 7 hds. Ohio—total 9 hds.

Flour.—best white wheat family, \$6.75 a 7.25; super Howard-street, 5.62 1/2 a —; city mills, 5.50 a —; city mills extra 5.62 1/2 a —.—CORN MEAL, bbl. 5.50; GRAIN, best red wheat, 1.10 a 1.14; white do 1.16 a 1.20; —CORN, white, 62 a 63, yellow, 62 a 63; —Rye, 72 a 75; —OATS, 40 a 41; —BEANS, 75 a 80; —PEAS, 65 a 70; CLOVER-SEED — a —.—TIMOTHY, — a —.—ORCHARD GRASS 2.00 a 2.25.—Tall Meadow Oat Grass 2.00 a 2.50.—Herd's, 75 a 87 1/2.—Lucerne — a 37 1/2 lb.—BARLEY.—FLAXSEED 1.50 a 1.62.—COTTON, Va. 10 a 12-LU, 12 a 14—Alab. 10 a 12.—Tenn. 10 a 12; N. Car. 10 a 12; Upland 10 a 12; —WHEAT, hds. 1st p. 29 a —; in bbls. 32 a —.—Wool, Washed, Prime or Saxony Fleeces 45 a 50; American Full Blood, 38 a 42; three quarters 25 a 28; half do, 30 a 33; quarter do, 25 a 30; common 25 a 28. Unwashed, Prime or Saxony Fleeces, 25 a 30; American Full Blood, 22 a 25; three quarters do, 20 a 22; half do, 18 a 20; quarter do 16 a 18; common, 16 a 18; HEMP, Russia, 10, \$206 a 217; Country, dew-rotted, 6 a 7c lb. water-rotted, 7 a 8c.—Feathers, 37 a 38; Plaster Paris, per ton, 5.90 a 6.00, ground, 1.50 a — bbl. Iron, gray pig for foundries per ton 35.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 75.00 a 85.00.—Prime Beef on the hoof, 5.50 a 6.25.—Oak wood, 4.00 a 4.50; Hickory, 5.50 a 6.00; Pine, 2.25.

CONTENTS OF THIS NUMBER.

Editorial; Culture of Barley—Exhibition of Sheep—Letter from P. White, U. S. Navy Agent in the Pacific, enclosing some seed of the Tree Cotton of Peru—On the Culture of Silk—Treatise on the Culture of Yellow Tobacco, containing every necessary information respecting the whole process of Raising, Curing, and Conditioning of that article, in the State of Ohio; by Joseph H. Ijams, Tobacco Merchant of West Rushville, Ohio; Of Soil, Preparation and Culture, Worming Tobacco, Tapping, Housing, Firing, &c.—On Rotation in Rice Lands—Utility of Frequent Ploughing—Principles of Vegetable Physiology—Buffalo Berry—Pruning Orchards—Letter on the Parkinson Breed of Hogs, account of several other Breeds, and on the Improvement of the Breeds of that Animal—Feeding Cattle, Preparation of the Food, Proper Manner of Feeding—On Proper Attention to Fences—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

The American Farmer,

Edited by GIDEON B. SMITH, is issued every Friday.

TERMS.

1. Price five dollars per annum: due at the middle of each year of subscription, provided that no balance of a former year remain unpaid.

2. The manner of payment which is preferable to any other for distant subscribers, is REMITTANCE BY MAIL OF CURRENT BANK NOTES; and to obviate all objection to this mode, the publisher assumes the risk.

3. Subscriptions are always charged by the YEAR, and never for a shorter term. When once sent to a subscriber, the paper will not be discontinued (except at the discretion of the publisher) without a special order, on receipt of which, a discontinuance will be entered, to take effect at the END of the current year of subscription.

4. PRICE OF ADVERTISING.—One dollar per square, and in the same proportion for more than a square, or more than one insertion.

Printed by J. D. TOY, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, FEBRUARY 8, 1833.

AMERICAN WINE AND GRAPES.—We have the pleasure of presenting our readers, in the present number, with the first part of an essay on making wine, by Mr. Herbmont. The second and concluding part will be given next week. This little treatise will be invaluable to vignerons, and to persons about entering upon the culture of the vine, and we bespeak for it an universal reading and entire confidence. For ourselves we consider it very far superior to any treatise extant, because it is so brief, and withal so plain, that any person may follow its directions without difficulty. Mr. Herbmont has been able in this short essay to concentrate all necessary information on the subject; and being a practical vigner, and the results of his practice being very far superior to any ever before accomplished in this country, every word of the essay is entitled to the most unlimited confidence. We may add another recommendation to this essay:—It is the result of patriotism exclusively,—unbiased by the ambition of literary fame and uninfluenced by the prospect of pecuniary reward. As to the result of the process detailed there cannot be a doubt; for we have often put it to the test in drinking the wine produced by it. We have also very often treated our friends,—those who are well qualified to judge of the qualities of wine,—all of whom have concurred with us in the opinion that it was excellent, and for some purposes very far superior to imported wines. It being the unadulterated juice of the grape, it is not of course as strong as the branded wines imported; but then this objection, if it be one, can be very readily and cheaply obviated by the addition of brandy by the consumer. We would suggest that Mr. Herbmont's modesty has deprived his essay in a measure, of an important advantage. He might very easily have shown that the addition of sugar to the must is in fact no adulteration of the juice; because saccharine matter being one of the most important elements of wine, the addition of it when known to be deficient in consequence of unfavorable seasons, is merely supplying an element by artificial means that would have been supplied by nature in more favorable circumstances. What difference can it make, whether we supply sugar by a judicious selection of a site for the vineyard, or, if that were in our power, by securing a greater degree of sunshine and obviating the effects of long continued cloudy and rainy weather at and just preceding the vintage, or, in the absence of the power to supply it by these means, by obtaining the necessary saccharine matter from another plant, which more certainly yields it and adding it to the must? The addition of sugar, therefore, cannot be considered an adulteration of the juice of the grape, any more than availing of any other favorable circumstance for the perfecting of the qualities of the grape can be so considered. Let us here be understood:—The addition of sugar to the unfermented must, to bring it to a due degree of strength, must not be confounded with the resort to this article to *sweeten* and render palatable to undisciplined tastes the poor and sour wines produced from grapes incapable of making wine of themselves under any circumstances. In the latter case, brandy must also be added generally, and the article produced by this process is not wine, neither is it cordial, (the mixture being unworthy of even such a name,) nor can it be drank by any one as wine—it is neither more nor less than a poor attempt at artificial wine, with so much of which our country is inundated, and no way superior to the logwood port and claret so cheaply obtainable in our shops. We do not feel competent to render justice to this practice of Mr. Herbmont; but having bestowed much attention to the subject, and carefully ascertained the elements of good wine, we feel perfectly satisfied of

the propriety of perfecting the juice, when deficient, in this way. If all European vignerons were to resort to this process, the grades of imported wines would be reduced to as regular standards as to quality, as brandy, gin, &c. now are. This practice therefore of Mr. Herbmont is actually an improvement on the European practice, and therefore ought not to be considered an adulterative process.

We attach so much importance to the essay of Mr. Herbmont, that we shall immediately put it to press in a compact pamphlet form, for the greater convenience of persons desirous of correct information on this subject. In this form it will be very conveniently transmissible by mail, to any part of the union and the postage will not be more than six cents.

EXHIBITION OF STOCK—SHEEP, &c.

MR. SMITH:

February 4, 1833.

I am much pleased with the liberal and free spirit of an "Eastern Shore Farmer," as published in your last number, for the purpose of reviving our Exhibitions of Cattle Shows, and although he only calls in aid of his proposition, a celebrated breeder of stock in Virginia, yet I feel well assured he did not mean to exclude others who may be disposed to renovate "the dying embers of Agriculture" in our state; but I have no flock of sheep, yet take much pleasure in the improvement of cattle, and I hope they may be admitted in the proposal of your correspondent. If such an addition is adopted, I promise not only to subscribe to the sweepstakes, but to produce some stock, that will at least be worthy of inspection.

I am of opinion a spring exhibition will be preferable to the fall, (say early in May) being in general the most pleasant season for such an object,—this however for consideration.

I understand the Treasurer of the Maryland Agricultural Society has on hand several pieces of plate unawarded at former exhibitions; would it be asking too much of the Trustees to take into consideration the propriety of offering said plate as prizes to be distributed by proper judges, for any description of animals which may be deemed worthy thereof?

A BALTIMORE COUNTY FARMER.

[We like the spirit of the above communication exceedingly, and hope our respected correspondent, "An Eastern Shore Farmer," will accept the amendment proposed to his proposition. Let us have a general sweepstakes, for all kinds of stock, useful in the business of agriculture. We feel persuaded that an exhibition of this kind can be got up, altogether superior to any heretofore known in this part of the country. We would not be considered as meddling impudently, and therefore request our correspondents to consider these remarks as the mere suggestions of a looker on. We would suggest that all persons, whether of this or any other state, be admitted as subscribers and competitors; and that they be permitted to bring forward any animal they may think proper, whether cattle, swine, horses, sheep, asses, or mules. But to prevent any difficulty in the awards, let there be a sweepstakes for each distinct kind; one for cattle, one for horses, one for sheep, &c.; thus each individual would be able to enter for the particular sweepstakes to which the animals he intended to exhibit might appropriately belong. The arrangement might be effected without any great trouble. All persons wishing to subscribe, might send their names to us, to be entered on the list for such of the sweepstakes as they might designate; and we would give due notice of the number of subscribers, and if it should appear that a sufficient number had entered, the subscribers would attend with their animals, appoint a committee of discreet practical men as judges, and put the subscription money into their hands, to be awarded to the owners of the best animals. There would be little trouble in all this, and we feel sure that a most important impetus would be given by it to this branch of rural husbandry.]

We like the suggestion, by a "Baltimore County Farmer," of an early day for the exhibition. It would show the usual management of stock, and not give time for pampering a particular animal for this special occasion. This we consider the best part of the proposition; for, when more time and money are expended on an animal than the creature is worth, it would be bad policy to follow the example. But, if the usual management of a farmer has resulted in the production of a superior animal, or any new mode of management has resulted thus, without extra cost, or in the absence of any expectation of obtaining extra compensation,—in the nature of a premium, or the like,—the demonstration of such facts, by the exhibition of the animals, would be decidedly beneficial.

We also like the suggestion that the plate, belonging to the Agricultural Society, be handed over to the judges, to be awarded at the proposed exhibition; and would suggest to the trustees of that society,—if they deem it too troublesome to hold a meeting for such a purpose,—that each trustee address a note to the treasurer, in the nature of a vote, yea or nay, thus:—"The treasurer of the Maryland Agricultural Society will consider this as my vote in favor of, (or against, as the case may be,) handing over the plate in his hands, belonging to this society, to the committee that may be appointed to award premiums at the proposed sweepstakes, &c."

We hope this thing will be entered into with spirit, and offer our services to aid and assist in any way in which they may be considered worth commanding. Let none hold back; but rather let every one who has animals of any kind come forward, and make an effort to revive the dormant spirit of agricultural improvement.

(From the Genesee Farmer.)

APPLICATION OF MANURE.

I observed, in one of your editorial articles, lately some remarks on the particular time at which manure ought to be used. The observation is made, that at the time when it is partially decomposed, so as to *part easily when taken up with a fork*, is the best.—The plan of Dr. Hosack's yard is mentioned, together with the remark of his manager, that his plan, by which the manure is sheltered, and therefore kept dry and undecomposed, is a bad one; he being of opinion that the manure ought to rot.

Now I contend that Dr. Hosack's theory and practice are correct, and the manager wrong. The nearer manure can be kept in its natural state, until it is carried out for use, the better. All the gasses that escape from manure, either by absorption or evaporation, are enriching to the ground and to vegetation. Of course, the greener it can be carried on to the land, the more beneficial it will be. Fresh manure, to be sure, may not be the most convenient for all uses, particularly in gardens. But even there, if *trenched* in when spaded up, it may be very profitably used.

The plan of Dr. Hosack has already been described in the Genesee Farmer, by Judge Buel. I have seen it; and it is, in my estimation, the best plan for preserving yard manure that I have known. In this way it is kept dry and in good order till used, when all its valuable properties are imparted to the soil. All kinds of decomposable matter, I believe, are to be treated in the same way. Moisture and heat will decompose them when properly applied, which is always the case, as their properties are required in the growing season. From my own observation, I am convinced that from twenty-five to fifty per cent. of the whole amount of manure throughout the country is annually lost for want of proper protection while in the yard, and from ignorance in the manner of using it. It is truly the *gold mine* of the farmer, and ought to be most carefully husbanded.

ULMUS.

REPAIR all your farming utensils, now you have leisure.

AGRICULTURE.

(From the New England Farmer.)

LIME.

The theory of vegetation presents a great field for discovery. What constitutes the food of plants? In what degree is nutrition derived from the soil? In what from the atmosphere? To what extent does manure operate on the soil? How on the atmosphere?

This is an important as well as intricate subject, and much may be expected from the increasing light and knowledge of the age, and from the diligent spirit of inquiry which is now in progression.

You have yourself, Mr. Editor, broken a lance in the controversy with a scientific cultivator of Albany on the effects of lime on soil.

Differences of opinion, like those exercised in this case, must doubtless lead to the extension of knowledge. But the danger is that whilst very opposite theories are strongly urged, an improper distrust may be excited. The subject, though important and beneficial may thus fall into neglect and disuse, whilst a decision is waited for, at which we may never arrive with the wished for accuracy.

From a frequent perusal of the benefits derived from lime in its application to soil in Europe, I have been induced for more than a score of years, successively, to make use of it for agricultural purposes to the extent of more than one hundred casks annually.

One of my first experiments arose from a desire to give a top-dressing to a piece of land, which it was otherwise inconvenient to do. The soil was a heavy black loam. Having a quantity of black earth from a trench, (or top stratum,) I procured a quantity of lime. A bottom of four or five buck loads of earth was first placed; then a couple of casks of lime were spread thereon; then earth and lime again, till my materials were used, or the quantity needed was had at the rate of eight or ten casks to the acre. Thus a cask being supposed to produce about five bushels of slaked lime, the cost of which, if the casks are swelled and the lime partly slaked is eight to ten cents a bushel. This is the most moderate application in Europe, and the cost is about the same.

This mixture after lying twelve or fourteen days was shovelled over, and after some days being found fine and well mixed was spread from the cart on the ground. To my surprise I found the effect produced to be equal to what is usual from common compost manure!

In England, where lime is most used for agricultural purposes, it is considered that in its crude state, or uncalcined state, it is most beneficial, if pounded or made fine. This, where limestone abounds it is well to know; but there is little of it in this neighborhood. Encouraged by this experiment, I continued to purchase and apply considerable quantities of damaged and air slaked lime* in my cultivation, particularly for a low, flat piece of land. This being intersected with small ditches, furnished the earth. I was not able otherwise to procure to mix with the lime. It is not well, however, in such cases, to lower the surface by taking off more than will keep the ditches open. When the earth is tough with sward, &c. it may be made finer by being carted out and put in heaps on the ground, and spread afterwards. Indeed this is done to great advantage in the winter. The poaching the land or making a rough surface for the scy the being then well avoided.

As this land cannot advantageously be ploughed, I have in applying every third year a top-dressing as my custom is, alternated, giving first a dressing of earth and lime, and at the expiration of three years, a coat of compost manure.

This has been done on the principle that a more

judicious mixture would be made, and a better composition of soil be had. I have been guided herein from general reasoning—not from any proof that the lime might not be repeated.

It seems, however, to be a prevailing opinion, where lime has been most in use, that it opens the soil and makes it more porous, giving thereby a better action to other manures, which a judicious husbandry should in succession apply. In this application of lime to a grass sward, in a deep springy soil, I have been for a long time well satisfied. It was several years before I undertook the same practice on a light soil, and I did it with less expectation. But I was somewhat surprised to find it equally beneficial.

So far lime has been mentioned as a component article in top-dressing for a green sward. Its effect will be shown on ploughed land, and in a grain crop.

With a view of increasing fertility, I frequently have applied on the side of the hills of Indian corn a small handful of slaked lime. I so placed it, lest the caustic quality of the lime should prove injurious to the tender plant when it first started from the soil. This is my opinion and practice. Though I have often since seen large pieces slaked and expand on the soil without injury to the grass, which in a lively green color pierced through it. This application of lime to the hill I continued for some time, and though small in quantity or effect, I still thought it of some advantage. I was led, however, to a more extensive and satisfactory experiment.

I had a piece of ground of about four acres, of rather light soil, which gave promise of a very small crop of grass. Being without the means of obtaining manure, as I had a quantity of earth of the top stratum, taken up on building a wall, I forthwith procured a quantity of lime, and mixed it in the manner before mentioned. About the middle of June I had the grass mowed and the land ploughed. The lime compost was then spread and lightly harrowed in. An early sort of yellow corn, which when ripe husked itself, was procured. And my neighbors, who knew the process, were, in the fall of the year, much surprised by the stout ears of golden grain thus unfolded to view!!!

I trust enough has been said to show the beneficial use of lime. Whether it acts on the atmosphere only, or as a stimulant to the soil, or actually contains (as is strongly maintained by some) within itself the food for plants is well worthy of discussion.

But whether either of these causes separately or they altogether conduce to the nutrition of plants, an advantageous effect of the use of lime on soil seems conclusively to follow. I have endeavored to avoid nice discriminations and have stated my practice plainly, not from its novelty to many of your readers, but because not only a great waste is made of this article but it is believed that at its average price in good condition, about ten cents, it may be used to good advantage. So also it is with mortar, rubbish of walls and chimneys, plaster, &c. from old buildings. These (and it is somewhat relative to this discussion,) I have made use of as a top-dressing to low soil to very good effect.

It has been observed that if lime is a fertilizer of soil why is it that where it abounds and often forms an under stratum a greater fertility does not prevail? To this it may be answered that lime is a constituent principle, it is believed in all soil, and may be supplied, where from experience a deficiency is found. But when it superabounds as in most other things excess may be injurious. In all this more experience is wished for as the only safe and profitable guide.

Yours, &c.

JOHN WELLES.

In George Shaw's garden (under keeper to the Hon. Mrs. C. Offley, at Madeley,) were grown this year, from three roots, the following potatoes. In number 367, weight 72 lbs. and upon a square yard of land: one of them weighed 24 lbs. and twenty 36 lbs. the whole as above.—Staffordshire (Eng.) Advertiser.

(From the Southern Planter.)

RUST IN COTTON.

Read before the Board of Directors of the Georgia Agricultural Society; addressed to their Secretary.

Sir,—Since observing in the second number of the Southern Planter a notice from your society requesting information in regard to the *rust in cotton* as popularly termed, I have been induced to make some inquiries and observation on this important subject, which I beg through you to present to the notice of the society.

Considering the term *rust* as applied to the oxyde of metallic substances which is the only application properly known to the writer, there is perhaps no greater *misnomer* in our language than such application to the animate living blight that has passed over the cotton fields in our vicinity. Within a few years the writer recollects one peculiarly fatal season to the crops, to which the present term was applied, and from which this is doubtless derived. The wheat crops in the southern states have been long known to suffer occasionally with a disease called *rust*! The planter when the first disease of this character appeared in the cotton crop, was doubtless induced from some resemblance in the effect rather than appearance to transfer so popular a name to an origin so very dissimilar.

So far as our experience in this matter goes it has been noticed that the two years in which this disease has appeared, a very abundant share of rain in the spring season was followed by a long drought during the summer; hence vegetation sprang up with unusual verdure and the earth was prematurely shaded with a luxuriantly growing crop. The growth being in this state arrested from above by the dry and scorching heat of the sun, while the earth protected by its luxuriant covering, refused in equal progress to assist the process of evaporation, numerous insects seek the protecting shelter thus afforded them, and within this safe retreat (the generation of animalculæ commences with a rapidity which none but the naturalist whose laborious researches have been directed to these objects could ever divine. The first appearance discoverable of the approach of the destroyer is a small globular liquid substance resting on the stem of each leaf, of about one-third of an inch from the expanding point of its filmy covering, on removing of which substance a small puncture will be discovered in the stem as if made with the sharpened point of a small knife or lancet. This incision is supposed to be made by the parent insect, and the juices to be drawn therefrom an intended deposit for the ova and subsistence for the progeny until such period as the animal functions become sufficiently matured to enable it to derive its support from the leaf itself, the commencement of which process is the destructive operation of the disease.

It is known to naturalists, as a fact favorable to our theory, that the decay of all substances, either vegetable or animal, is attended by a vast creation of animalculæ, and indeed that each body of putrid or decaying matter even down to the drop of stagnant water is, when placed before the microscope, a miniature world of animated creation as perfect in its form and as regular in its attendant evidences of organization and circulation as are the more gifted beings derived from the same divine origin, known as man. It will be further observed that the greatest destruction in the cotton crop by these minute beings will be found in the fields which have been the fewest years in cultivation, and where abundant decay of the primitive growth is yet left in the fields or adjacent thereto.

These animalculæ in their perfect state, when rioting in the luxurious growth of the cotton leaf, present an appearance to the naked eye somewhat resembling what is usually known as the red bug, except being of a less bright color and not quite so large. Their ravages are confined mostly to the underside of the leaf where they are generated, and from whence

* Lime long exposed to the air, such as sweepings of stores, &c. is of less value and more cheaply obtained.

they eat the vegetable substance between the fibres or branching particles entirely through. Exposure to the rays of the sun will destroy them in a few moments, as may be seen by detaching a leaf and exposing the under part to solar heat. But as this is a process altogether impracticable to any considerable extent, the only means which Providence has directed to their timely destruction is a plentiful season of rain, after which they entirely disappear. This in the present season, as many of our cotton fields bear witness, came too late to arrest the evil before the destruction of the labors of the industrious planter.

A very intelligent planter whose views on this subject I was induced to learn, suggests as the only remedy against so deadly a scourge to the cotton plant, that the breaking up of the cotton lands in the winter season, and thus exposing in their torpid state those insects concealed in the soil, or in roots of vegetable substances to the action of frosts might effectually extirpate them; but the writer is more induced to believe the deposit of the ova in the first state as noticed in this essay, is the work of a fly or some insect whose wintry torpor is more generally confined to the bark or bodies of decayed trees from whence they issue in the spring season where they generate in myriads, on the leaves of plants, and what few escape the destructive influence of the seasons, arrive at the parent state at autumn to continue its ephemeral existence as successor to its parent until the following season in the same convenient asylum—thus so far as the industrious agriculturist is concerned we can only look to a Providence, to whose behests we should bow in submissive silence, while we are left to witness and contemplate the minute organization of these tiny but destructive beings, without obtaining a remedy for the object of our anxious inquiries.

(From the Farmers' Chronicle.)

SIZE OF FARMS.

An obstacle in the way of good husbandry in the west, is the size of the farms. Very generally they are too large. The cheapness of land offers an inducement to the farmer to procure a large tract. And the fashion being set, he who has not 3, 4, 5 or 600 acres of land, is not considered a farmer on a respectable scale. This thing, I have no doubt, operates detrimentally to the general interests of agriculture, and to the individual disadvantage of proprietors. If a man possesses the means of purchasing a farm of 500, or even 5000 acres, and then, of suitably improving, stocking, and cultivating it, it might operate well enough, as regards himself. But it too generally happens, that the farmer settling among us, purchases land to the full extent of his means. Then if unimproved, his improvements must progress very slowly, and will be at least imperfect, if not very inferior. His grounds partially cleared, his enclosures insecure, his barns and stables (if perchance he have any at all) mere temporary sheds, and his own dwelling, a poor, contracted, uncomfortable cabin; and all this for the sake of having a large farm. But the mischief ends not here; it is perhaps still more injuriously manifest in the cultivation. A large farm requires large fields and crops. Accordingly, you see a field set apart for corn, of the contents of 100 acres. But the deficiency of means will not admit of thoroughly breaking with the plough, perhaps not at all—and the poor substitute of *furrowing out*, as some call it, is resorted to. The after culture of the crop is in keeping with the commencement, and nature would not be true to herself, if she did not give such a harvest as such culture deserves. What there is, lies neglected in the field, or unhoused at some other point, until unruly animals, allured by bad fences, claim a large *tithe* of the product, or till the storms of winter destroy a large portion of the summer's labor. Now suppose, this whole business put upon a smaller scale, and graduated by

the means of the proprietor,—suppose the quantity of ground tilled 20, instead of 100 acres. This well broke, and ploughed and hoed, and weeded in after culture; timely gathered, and well secured, the profit would have been probably a hundred per cent. better.)

Besides all this, it is only where farming is carried on, on a smaller scale generally, that you witness that universal neatness, and taste and finish which throw around the whole scene a sort of rural enchantment, which attracts and impresses every beholder. And the thing is most easily accounted for. The whole is under the farmer's own eye, and within his own means, and wrought chiefly if not exclusively by his own hands, and those of his healthy sons. He seeks not to be proprietor of an agricultural empire, in extent, but to create an agricultural paradise of concentrated attractions and beauties.

It is to the small farms in every country, that you are to look generally for the best models, the finest taste, the most pleasure and the largest profits upon the investment.

I am confident, that 50 acres cultivated in the very best style of modern improvements, would yield more profit, than many of your 500 acre farms now yield.

It is an excellent rule, never to take in hand more ground than you can cultivate in the best manner; for assured, that if you calculate to make up the defects of culture, by increasing the quantity of ground thus defectively cultivated, you will find yourself greatly in error.

(From the Farmers' Chronicle.)

MANURES.

The reliance of the farmer is upon the soil for the success of all his operations. To have then a soil suitable to the different varieties of vegetable productions he may wish to cultivate,—to have a soil of sufficient richness to bring him the best possible return for his labor and expenditures, and to perpetuate that profitable degree of fertility from year to year, and from generation to generation; are objects of the highest importance to the tiller of the ground, and of which he should never lose sight. And as these great advantages cannot be fully realized, but by the application of *manures*, I know of no more suitable subject with which to commence the year and the *Chronicle*, than this same subject of manures.

To the manuring system, however, there is an objection raised by some, which I have never met with, save in our own rich valley of the west. It is that the superior richness of our soil renders manuring unnecessary. Accordingly, we find a large proportion of our farmers making no account whatever of the immense quantities of valuable manure, which is continually accumulating around them. And in our own country I believe it would be an easy matter to point out barn yards, in which 20 or 30 head of cattle and horses have been fed for nearly twenty years, from which the first cart-load of manure has never yet been removed. Indeed the chief trouble most of our farmers have about their manure, is to devise ways and means of getting around, or over, or through the immense mass; or that of extending a stable door upward so as to admit the animals intended to occupy it; or that of occasionally removing a stable, to avoid the greater labor of removing the manure of 20 years' accumulation from around it.

That our soil generally possesses exceeding fertility, is a fact well known, but it would be very unreasonable to suppose this fertility inexhaustible. The richest mine of gold, is reduced in value, by every dollar of the precious metal taken from it: so the fertility of the earth is reduced in value, by every dollar's worth of produce it yields; for if we except the nourishment derived from the air, every plant or fruit grown, is formed of the nourishment of the soil, that is of the particles which give the soil its richness or productive property, so that no field can possess as

much fertility immediately after having yielded a rich crop as before, for a part of that fertility has become transformed into the grain or fruits which constitute the crop.

But as a large proportion of mankind are destined to procure their sustenance by cultivation of the earth, all-bounteous nature has provided for the perpetual renewal of the earth's fertility, while a mine of the precious metals continues to decrease in value and productiveness, without the possibility of prevention, until it becomes exhausted and utterly worthless, and so it must forever remain. But in regard to the soil, that immense store-house of nature, it is happily ordered, that the very productions which consume and exhaust its richness, after having contributed to the comfort of man, restores again its diminished fertility. But if the healthful restoratives provided by nature, for the enrichment of the soil be neglected by the husbandman, his rich treasure will gradually waste down to barrenness, sterility and utter worthlessness. For if the manuring of the soil be neglected, it will not only, in the process of time become unproductive, but will actually degenerate beyond the possibility of recovery, and the now fertile fields and rich plains, will become barren, naked, worthless commons.

And even now, much of our best land, and perhaps all, unless we except only those which are quite new, would produce much better crops for manuring, and aside from future advantage, reward the industrious farmer with a large present increase of crops.

It is not now my intention to speak particularly of the kinds of manure, and their adaptation to the different kinds of soil and their effects upon those soils, but only to excite the farmer, if possible, to appropriate whatever time he can redeem this winter, to the work of collecting his manure and spreading it upon his soil. No labor he can engage in will better compensate him than this. It is gratifying to find that more attention is being paid to this important matter than heretofore; and it is hoped, that very soon, the matter will be properly appreciated.

(From the Southern Agriculturist.)

ON THE CULTIVATION OF CORN, COTTON, &c. NEAR PARIS, TENNESSEE.

We are situated near the 36° north latitude; where it crosses the Tennessee river, our land is, generally speaking, undulating—not so level, but bad cultivation permits the land to wash in many places. Our produce is corn, cotton, tobacco, potatoes, oats, wheat and rye, &c. &c. Forty bushels of corn per acre, I suppose, is the average crop; some think they make fifty or sixty—though I do not. The corn is planted from March to 15th June, at four to four and a half feet from hill to hill, and from two to four stalks left in the hill; the plough is used almost entirely; and but little hoeing done to it—never more than two given, and more often, none. There is no manure used for corn, or, indeed, any thing but our gardens. We usually strip the blades from the stalk as soon as the shuck on the corn begins to whiten, or as soon as it is hard enough; the blades are tied up with the blades, and stacked around a pole twelve to eighteen feet high in single or double rows. When dry enough, the corn is gathered and hauled to the crib, the shucks taken off and put in the crib;—the shucks, by most, are put in a pen to feed the stock—by others, they are permitted to rot on the ground.

The cotton is planted in drills, four to four and a half feet apart—five furrows thrown together, and opened with a gofer, or helve of wood, made for the purpose;—three to five bushels of seed are sown, and covered with a small rake, block of wood, or board, drawn by a horse, in the manner described in the "Agriculturist";—as soon as it comes up, the grass is hoed off, and picked out from among the cotton with the fingers—(some put their geese in the field at this stage, and make a small boy follow after them very

slowly, so as to make them pass all over the field, and they say that ten will pick as much grass as a hand will—never tried it, though I have seen it once; they must be driven to water every day.) As soon as the grass is again up, the plough is run with the bar next the cotton, and dirt thrown into the alleys, hoed and picked again, and partially thinned; the third time, the stalks are thinned to eight inches in the row, and cultivated with the plough, or skimmer, cultivator, rake, &c. There are many different ploughs here; every one has his own notions, and consequently has his plough shaped to please himself; the bar-shear, dagon, half-shear, gofer, &c. &c. with their different parts, and selections from each; the gofer and skimmer are both used on the same helve, and worked together at the same time. We usually commence picking out about the 1st October, or sooner, and pick from twenty to one hundred and twenty, according to the hand—eighty to one hundred is the common day's work, at the best time. Whitney's gins are the only kinds used—I never saw any other. We usually calculate to work about seven acres in cotton, and five to seven in corn, besides potatoes, oats, &c. &c.

Tobacco is not much cultivated: the seeds are sown in good rich new ground, about the 1st to 20th February, the ground is previously burnt, and if they do not thrive, or if the fly injures them, they are watered with water in which stable or fowl manure has been soaked. The land in which they are to grow, is made into hills about six to twelve inches high, at any time after the frosts are over. The planting commences in April and continues till June; cultivated in the same manner as corn. The bottom leaves are stripped off when about twelve or fifteen inches high, about four to six inches from the ground, and topped to ten leaves on each stalk. The stalks stand separate, at about four feet apart, it must be suckered, and the worms taken off with the hand; or, some drive their turkeys into the field, and they will catch the worms; they are managed in the same way as the geese among the cotton. Judgment is required to know when it is in proper stage to cut. The curing is managed according to the quality of tobacco required, which requires great judgment and experience. It agrees with cotton very well, as the time required to manage it is a damp time, when cotton cannot be picked out. Many plant it among their cotton to fill up the vacancies occasioned by cotton dying, &c.

The wheat is sown among the corn or cotton, from the 15th October to the 15th November. The early wheat does best with us; it is subject to rust, fly, &c.; fifteen to thirty bushels is a common crop.

Rye and oats grow as fine here as in any country I ever saw. Rye sometimes grows as high as eight feet, oats as high as six; rye is very common at six to seven, oats at five; they are remarkably heavy, though I cannot say how many bushels, as we usually cut them up without threshing them out, and feed them to stock.

Our horses and cattle are miserably abused; many have a rail-pen for their horse to stand in, and none have shelters for their cattle. The best stables are made of logpens, without any thing in the crevices to exclude the cold and rain. We have many diseases, consequently, among us; the most common among the horses are the big head, the big jaw and shoulders, swinney, spavin, blind-staggers, and glanders, &c.

I have said enough, and fear your patience will be exhausted before you get through it. Yours, &c.

JAMES JONES.

EXTRAORDINARY PRODUCE.—A correspondent of the Carlisle (Eng.) Journal, states that a short time since, whilst taking up potatoes in a field at Liddell House, Nichol Forest, no less than 162 potatoes were found at one stem.

HORTICULTURE.

WINE MAKING.

MR. SMITH: *Columbia, S. C. Jan. 23, 1833.*

My Dear Sir,—The very flattering and pressing request of Pomonkey, and so urgently backed by you, that I should communicate fully to the public through your valuable American Farmer, my process for making the wines which yourself and several very respectable gentlemen of Baltimore have been pleased to speak favorably of, renders it a very willing duty on me to do as you request, to the best of my slender abilities. I should have done so long ere this, had I not been prevented by a multiplicity of engagements, which together with my waning strength and ability, have put it utterly out of my power to comply before this. I shall then proceed without further apology to do my best in the shortest time possible.

Before I proceed to the immediate object of the request, it may not be amiss to make a few observations on the vine and any thing pertaining to its culture, and such other preliminaries as may suggest themselves to my mind as I go on.

That the culture of the vine does not involve any great mystery, and that it is not carried on through very difficult processes, is abundantly evident by the great variety of methods used in the different parts of the world where that culture is attended to; for, not only do the practices of various countries differ from each other, but perhaps also there are no two sections of the same country where the practice or mode of culture is precisely the same. Although we cannot doubt that some of these are preferable to others, yet all are attended with a success more or less perfect; besides which it is most probable that the infinite varieties of sites, soils and climates, as also the most innumerable varieties of the vines themselves must render some difference necessary for the various particular circumstances. Admitting these observations to be correct, the choice of the particular methods of culture, and of all the cares it requires, must rest chiefly on the judgment of the owner of the vineyard, or of the practical man that works it. It necessarily follows, from these premises, that the culture of the vine is not only unattended with difficulties, but that any variation from the best mode may not necessarily be followed by ruinous consequences. General principles are then all sufficient with persons possessed of any judgment, and it is useless to write for others. An enlightened cultivator of this or any other plant ought to be acquainted with the doctrines of vegetable physiology, and from his practice form his own judgment of the peculiar habits of the plant he cultivates, and of the various circumstances that may properly modify its culture.

Plants grow, increase in bulk, and are kept in a healthful state from the abundance and nature of the food that nourishes them, and this they extract from the earth by means of their roots, and from the air by their leaves and other tender parts. The vine is naturally disposed to push shoots of very great length, so that in rich soils it climbs to the tops of very high trees. The roots of plants are usually proportionate to their tops; hence it follows that the vine thrives best in a soil that is loose and easily penetrated by its long roots which go to a considerable depth in search of moisture as a necessary supply for the great expenditure of it which it must suffer by its very extended ramification and abundant foliage. The latter, however, imbibes from the air, particularly in the night, a great proportion of the moisture necessary for its support, and also to furnish for this expenditure during the day. The abundance and quality of its fruit depend, in a great measure, on the just equilibrium between this supply of food and moisture and its due evaporation. If there be a superabundance of it, the grapes are too watery and deficient in saccharine matter and other necessary ingredients to form a perfect fruit, and it is moreover very liable to rot under

these circumstances. To obtain good, sound and rich grapes, it is probably better that the supply of moisture be rather deficient than over abundant, and under any circumstance, the soil and situation for a vineyard ought to be selected with this object in view, and also that the supply of moisture be as regular as the nature of things will admit, and that as much as is practicable, independently of the seasons, whether these are dry or wet. A light, deep and permeable soil seems to offer these conditions; for in such, the roots of the vines, if these have been planted at a sufficient depth, will reach to where water is never very greatly exhausted, nor ever greatly superabundant. In a severe drought the moisture of the earth is only diminished, but never exhausted, below a few inches of the surface; and this is rendered evident from this, that during such a season, when most other plants are deficient in dew in the morning, a little drop of it is usually found at every point of the leaves of the vine, which shows either that its roots furnish the supply from the great depth to which they descend, or that the leaves by their temperature, probably occasioned by this very supply, condense during the night what little moisture is in the air; though during such periods of great drought, the neighboring plants seem not to have this property, at least in an equal degree. On the other hand, when the season is uncommonly wet, particularly when this is not so much caused by the frequency of the rains as by the great quantity of water that sometimes falls in a very short time, the roots of the vine which are at a considerable depth, are not suddenly affected by it; for rain does not sink rapidly and deep. On the contrary, it may be observed by any person, that after a spell of wet weather of several days continuance, the water has penetrated only a few inches, at least in any considerable quantity. The roots, then, are not drenched with a superabundant moisture, unless they are within a short distance from the surface. The management and culture of the vine must then be with a view to these effects, and the same precautions tend to guard against both cases. It is endeavored to attain these desirable objects by various means. First, in planting the vines, the holes or trenches should be made much deeper than its present roots will reach, and if manure is used, a portion of it should be spaded in the bottom of the hole for the purpose of inducing them to grow downwards. The vine is also planted somewhat deeper than it was in its natural situation, taking care not to fill up the hole even with the surface, lest the plant should suffer after its transplantation from the want of the due influence of the air and other atmospheric action on its roots. It is thought best to leave the holes unfilled by eight to twelve inches, and gradually to fill them up in the course of one, two, or even three years, according to the depth to be thus filled up. By this means the plant gets accustomed to grow with its roots deeper than it would otherwise do. Another practice followed with the same view, or rather to obtain a continuance of the same end, is every fall to take away the earth at the foot of the vine to the depth of six to eight inches, or thereabout, and to cut off all the surface or horizontal roots within that depth. It seems reasonable to suppose that this operation must induce the vine to have its dependence on its lower roots, the upper ones having been suppressed. Now it has been shown that the drought does not very materially affect the earth below a few inches, except very gradually, the supply of moisture will then be rendered more uniform by the roots being deep, and, in wet weather, the upper roots having been suppressed, they cannot furnish to the vines so great an addition to its usual moisture, as would be the case if these roots had been suffered to remain within the immediate influence of the weather. This practice, therefore, also tends to equalize the supply of moisture during a rainy season as well as during one of drought. Experience having proved that the grapes are very liable to rot when the

Season is very wet, it appears, therefore, advisable to adopt the practice here above noticed, so as to counteract, as much as in the power of man, the irregularities or intemperature of the seasons. As it has been showed, it is hoped satisfactorily, that it is desirable to have the vine rather dry than moist, it follows, of course, that a high, clear and open place is the most suitable, and that the proximity of dense forests is injurious, by retaining a damp atmosphere, when on the contrary a free circulation of dry air is beneficial.—This observation is sanctioned by the experience of thousands of years, and Virgil has said, "*Denique apertos—Beeches amat colles*."

The cultivation or the stirring of the soil is next to be considered. The general practice in Europe is to stir the soil deep and often, and it is therefore universally recommended as a *sine qua non*. It may seem presumptuous to doubt the advantages of this practice in every situation and climate; but it seems to me that reasoning on the objects in view, it may be more injurious than useful in a climate subject to long and heavy rains. The oftener and the deeper the soil is stirred, either by the spade, hoe or plough, the more rain it will imbibe, and if it be desirable to have less of it, it follows that in such a climate the earth ought not to be stirred either often or deep, but just sufficiently to keep the field clear of grass and weeds. In support of this *heretical opinion*, I will ask, whether it is not, in this country, universally seen that vines planted in yards, in towns, and similar situations, where the surface is never stirred up, but always beaten hard and frequently paved, generally succeed better and much more seldom fail, than in more open cultivated situations and in field culture? And are not our abandoned old fields proverbial for producing great crops of our native grapes? These facts cannot be doubted. Now it is evident, that in such situations the earth imbibes very little water from the rains compared with the cultivated fields; for it runs off as fast as it falls, and the number of houses which cover the ground of their vicinity, must undoubtedly keep the earth much more dry than in the country. Add to this the streets by which they are surrounded, and which are always hard and many of them paved, suffer the greatest portion of the rain that fall on them to run off, whereby the earth in all the neighborhood is necessarily much more dry than the fields.* If it is true, then, and it seems to me that it cannot be doubted that the vines growing in such places bear better and more surely, it follows that the nearer the situation and other circumstances of a vineyard approaches to this state of things, the more we have a right to expect success in our attempts at cultivating the vine extensively in this country. As the abundance of moisture is not opposed to the growing of the vine, but on the contrary assists it, a young plantation should be treated differently, and the ground should be kept loose and perfectly free from weeds and grass, until the young vines have taken a permanent hold of the soil, and the better to secure this, I would advise the application of some well rotted manure, vegetable earth, or the like, mixed with the natural soil into which they are planted. This will insure to them a strong growth which is desirable at first.

The pruning is also to be noticed. And here I shall observe, that we ought, in all our attempts at cultivating the vine, or, indeed, any thing else, our first object ought to be to assist nature in her operations; but never to oppose her with right down contradiction in her modes of proceeding; though we may avail ourselves freely of her willingness to change somewhat her ordinary course to accommodate us.—The usual method in Europe is to keep the vines low, and to prune very close, by which means the young

shoots are proportionably large, vigorous and sappy. Every part of the vine of the summer's growth, is larger and more succulent than if it had not been pruned. This, it appears, has somewhat the same effect that a greater degree of fertility of the soil would produce. Another effect is, that by suffering a much smaller number of shoots to grow, the vines are more open, by which a freer circulation of air among them is obtained. It may be observed here, that within certain limits, the poorer and drier the soil is, the richer the fruit, though less abundant.—The more freely the sap runs up to the ends of the growth, the more vigorous and large this growth seems to be. To procure, therefore, as great a crop as desirable, without running the risk of having the fruit too weak in saccharine matter, the practice frequently obtains to prune short, viz: to three or four buds, more or less, according to the strength of the vine, every shoot of a vine except one which is kept two or three feet long, but bent round so as to form a circle by tying the end of it to the foot of the vine, near about the place where this shoot takes its rise. Mr. Forsyth aims at the same object when he recommends to trim the young shoots of the preceding year's growth, which he keeps much longer than is done in vineyards, horizontally in a serpentine form, by which the movement of the sap is rendered more slow. When we understand the object and effect of these practices, we can govern ourselves so as to obtain the same effect by similar means adapted to our circumstances. That the grapes of old vines are richer than those of young ones, must be accounted for on the same principles; for young vines push with a much greater luxuriance than old ones, and bear accordingly a more watery fruit. This, I believe, is the case generally with all sorts of fruits, and it is frequently found that when the trees are planted into too fertile a soil, they bear little or no fruit; the little they bear being very inferior. This, at least, is the case with the peach.

Whether it be owing to our soils and climate, or to the nature of the vines which we cultivate most successfully, or to both causes combined, certain it is that our vines grow larger here than in Europe. We should, therefore, adapt ourselves to our circumstances, and prune and train them accordingly. Young vines, about six to twelve years old, are often seen to put forth shoots in the course of one summer, from thirty to fifty feet long. It is impracticable to keep such vines within the height of three or four feet altogether, as is the case in most of the vineyards of France. The object that nature seems to have in view is to form a large tree, and if we employ all our art and skill to defeat her, it appears to me that it must be to our disadvantage. During these years of great growth, then the pruning ought to be such as to moderate only this propensity of the vine to its enlargement, but not to destroy it.

At the first planting of a vine, it ought to be cut down to one or two buds, so as to give it no more to do than its impeded vigor will allow it to perform.—By this means, instead of having a number of slender weakly shoots, we shall have one or two strong ones, that will give us the prospect of a luxuriant healthy vine. The second year, the vine ought to be pruned short again, to about three or four buds, and suffer only one or two of these to grow. This course may be followed, gradually increasing the length of the vine until it has attained to a considerable extension. The longest and strongest shoots ought to be shortened in proportion to their strength, and trained horizontally, or nearly so, in such a manner as to fill up as evenly as possible the space allotted for it, suppressing entirely all the weaker ones, those that are misplaced, and cutting down to four, to eight or ten buds, the middle sized ones, and be sure not to leave too many of them, that in the summer the vine be not too bushy and confused.

I train mine to the height of about eight feet, and then lead them horizontally overhead on a coarse trellis

lisa formed of lathes, either split or sawed. This trellis is supported by posts merely split as if intended for a common worm-fence, or sawed when a saw mill is convenient. These being made of the most durable wood I can get, (here we use light wood.) This frame or trellis forms squares of about two feet and a half, and to it I tie the vines with willow twigs. There is a considerable advantage in tying the vine on the under part, instead of on the top, which is this: When in the spring the shoots are growing luxuriantly, they are easily broken off by the wind, if they are not supported, and they are too tender to be bent down to the trellis. The frame of the trellis is formed of laths four inches wide by one inch and a quarter thick, placed edgewise. The vine being tied under this, the young shoots readily find a support against the smaller laths nailed on the top of the larger ones; or they may be gently inclined towards them and fastened by some soft substance, and very few are broken down by the wind. In this manner of attaching the vine to the frame or trellis, all the old wood, even that of the preceding year's growth, is fastened underneath the laths, and all, or nearly all the young growth, rests on the top, fastened down to any part of the trellis, and the grapes hang down between the laths, the foliage being thereby above, protecting the fruit from the immediate action of the sun and direct influence of intemperate weather. A full grown vine well trained and spread in this manner, with its fruit hanging down, and surmounted by the green canopy of the leaves, is a very beautiful sight. Another slight advantage of this manner of training is, that the grapes cannot be seen from above, and that, therefore, the birds are much less attracted by them. An old vine is to be pruned according to the same principles, and in pursuance of the same views, as the younger ones, viz: to leave only as many bearing branches as are necessary to fill up the space, and less than this if the space is great, and prune them shorter or longer according to their strength and the number of them; figuring to one's self whilst pruning, the effect of the future shoots, both in filling the space, and in being sufficiently distant from each other, as not to be crowded and impede the free circulation of the air. It is, of course, better that there should be some vacancies between the growing shoots than that these should be too close.

As the vine is growing, it is advantageous to take off the *interleaves* or side shoots, called by some "robbers," and also the claspers, at least as high as two or three buds above the fruit; but, as you thereby deprive the vine of its natural means of fastening itself to the frame for support, their place (the claspers) should be supplied by tying them in their suitable places, with some soft substance, such as bass-matting, bullrush, or even corn-shuck, softened in water. The claspers, if left near the fruit, are apt to entwine round it and injure it greatly. I call "*interleaves*," these secondary shoots that grow on the primary ones, at every joint, and seem destined to protect the buds that are intended for the following year's growth, and it may be better to cut them off, leaving about half an inch of it, than break them off close to the principal stem and the buds they protect. Be this, as it may, if they are all left, some of them do sometimes grow too large, shade the fruit too much, and seem to nearly obliterate the bud which we think they feed and protect. The leaves ought never to be pulled off, particularly near the fruit, except perhaps when it is nearly ripe; for they are a provision of nature to procure food, sustenance and protection to the buds destined for the following year's growth; for if the leaves are pulled off, these buds would thereby be starved. If such leaves are ever suppressed from necessity, they should be cut off so as to leave the greatest part of their footstalk or stem. Neither should the principal shoots be shortened, nor, at any rate, until late in the season, and when the fruit is nearly ripe. The shortening of them induces the interleaves to grow much more than they would otherwise, and if they are cut

* It is evident that the chief argument refers principally to the vines in yards and in towns. Those in the old fields partake of the advantage of trodden ground, though in a less degree; but they are natives.

off only a few buds above the fruit, this operation usually forces the growth of the buds depended upon for the following year's fruit as well as its accompanying appendages of leaves, &c. This operation, in several kinds of vines, makes them produce a second crop of grapes which may ripen tolerably late in the fall, but seldom uniformly and as perfectly as the first; and this is, moreover, as stated above, at the expense of the following year's crop and to the injury of the vine.—If this be ever done for the purpose of obtaining a second crop of grapes, only one branch or rather shoot ought to be so treated, unless the vine is large and very luxuriant, when two shoots to each such a vine may be made thus to perform a double task. I know that this operation of shortening the shoots is recommended by many writers on the subject, and this with the view, as they say, to throw more sap and nourishment into the fruit. In this I believe they are mistaken; or, if not, I am satisfied it will not answer a good purpose in our climate and with our luxuriantly growing vines. It seems to me that the reasoning of these writers is not correct; for, if plants take in nourishment from the atmosphere by their leaves, the suppression of a considerable part of the leaves bearing shoots, must deprive the vine of a part of its expected food; though, perhaps, the fruit may be rendered thereby the richer in saccharine matter, by subtracting from the luxuriance of the vine. This may be the case, though my experience seems not favorable to such a conclusion; besides the inconvenience of losing the buds of the next year's crop. In order to ascertain, in some degree, the effect of shortening the shoots on the fruit, and to prevent the growing of the interleaves and buds, I have several times operated as follows, on shoots which I intended to be cut off at the following pruning: After cutting off the shoot two or three buds above the fruit, I carefully with a penknife scooped out all the buds of the shoot, taking care not to injure the principal leaves. The effect on the fruit was so insignificant as not to be observable. The grapes ripened well, but were neither larger nor better than the others; indeed they were rather smaller.

I have thus, Mr. Editor, given you a very long and prolix account of my views on the subject of the culture of the vine in this country. In my next communication, which I hope to send you in a few days, I shall terminate this essay by giving you my notion as to the making of the wine.

I am, very respectfully, sir, your obed^t serv^t.

N. HERBEMONT.

(To be concluded in the next number.)

(From the Southern Agriculturist.)

ON THE CULTURE OF RHUBARB.

BY THE EDITOR.

Read before the Horticultural Society, Oct. 16th, 1832.

Of the various vegetables which it appears desirable at present to introduce into this state, we know of none more deserving the attention of the horticulturist, and of all the encouragement this society can offer than the Rhubarb, whether we consider it as adding to the luxury of our table, or the collection of our *Materia Medica*.

It is not our intention in the few remarks we shall offer to enter into the history of this valuable plant, but merely to draw the attention of this society more to it.

The three species most cultivated for tarts and conserves, are the *Rheum rhabarbaricum*, a native of Asia, the *R. hybridum*, a native also of Asia, and the *R. palmatum*, a native of Tartary. These are all perennials, and cultivated solely for the petioles of the root leaves, which made into tarts or conserves are scarcely surpassed by any of our fruits. Besides these, there are the *R. undulatum*, and the *R. australe*, together with numerous varieties originating from some one or other of the above enumerated species. The *R. palmatum*, was for a long time considered as the species which produced the true Turkey Rhubarb,

and the difference discovered between the roots grown in England and that imported, was ascribed to climate. More recent investigation has resulted in determining, that it is not the *R. palmatum*, which produced the Rhubarb of commerce, but the *R. australe*, which has been more recently introduced, and is now under culture in Europe.* It is said to be as hardy, and to grow as well as the other species; but we are without information as to the medicinal qualities it possesses when raised there, compared with the imported, nor are we informed whether it can be used in deserts as the others are, or is valuable only on account of its medicinal virtues.

The rhubarb has been used in the northern and eastern states for making tarts and conserves, but when first introduced there is uncertain, nor is it of any consequence to know. In the southern states, we are not aware in a single instance of its successful culture prior to this time. It may, however, have been introduced, but certain are we, that in the neighborhood of Charleston, it is altogether a new plant. It is, also, unknown, except by name, in all those sections of this state which we have visited. How

* The following information relative to this species, is derived from the British Flower Garden, by Robert Sweet. "The leaves are heart-shaped, large, their margin set with little red glands; the flowers are of a blood-red, as are the seed vessels; and, from these circumstances, it is easily distinguished from every other species of the genus yet known. Dr. Willich, of Calcutta, first transmitted seeds of this species to England; from which plants were raised by A. B. Lambert, Esq. of Boyton House, and flowered in June, 1828. Mr. Don and Mr. Sweet consider it 'undoubtedly the handsomest species of the genus,' independently of the interest attached to it as a medicinal plant." The following description is by Mr. David Don:

"The stem in the cultivated plant is from 7 to 10 feet high; the leaves are numerous, ample, and of a grassy green; the flowers are smaller than in any other species of the genus, of a dark or blood-red color, and disposed in many branched clusters; the seeds that afterwards appear are dark red, with a highly polished surface, resembling, at a distance, clusters of glittering beads. When bruised, they emit a powerful odor of rhubarb, are highly astringent, and dye the fingers red, from the quantity of coloring matter contained in the testa. It is perfectly hardy, and appears to ripen its seeds even more copiously than the other species; and, from some trials that have been made with the foot-stalks of the leaves, it seems disposed to vindicate its medicinal claims even in our own climate. The color of the flowers would alone be sufficient to distinguish it among its congeners. The late period of flowering deserves also to be remarked. As all the species are endowed, in a greater or less degree, with similar properties, much difference of opinion has arisen, both among botanists and pharmacologists, respecting the one that yields the rhubarb of commerce. Linnaeus considered it at first as the produce of his *R. rhabarbarum* or *undulatum*, but he afterwards appears to have altered his opinion in favor of *R. palmatum*; which opinion has been almost universally adopted by pharmacological writers, although it is admitted that the qualities of the root of *R. palmatum* differ materially from the Turkey rhubarb of the shops: but this deterioration has been attributed to the difference of soil and climate. The *R. australe* appears to be peculiar to the great table lands of central Asia, between the latitudes of 31° and 40°, where it is found to flourish at an elevation of 11,000 feet above the level of the sea. Large quantities of the roots are annually collected for exportation, in the Chinese provinces within the lofty range of the Himalaya. The best is that which comes by way of Russia, as greater care is taken in the selection; and on its arrival at Kiachta, within the Russian frontiers, the roots are carefully examined, and the damaged pieces removed."

Mr. Sweet has been "informed that the stems of the leaves have the same effect as the root; only, of course, a greater portion of them will require to be used. They may be made up in a small tart, like the stems of the common rhubarb." Culture as in the other species, covering the roots a little in very severe winters.—*Gaz. Mag.* vol. v. p. 161.

It has happened that whilst it has been cultivated and used for some length of time so near to us, and must have been partaken of by very many of our citizens, it has never been introduced either into our private or market gardens, is one of those occurrences which we sometimes meet with, and are scarce able to assign a satisfactory reason for. It could not be its want of good qualities to recommend it, for wherever it is known, it is eagerly sought after as affording the earliest and certainly the most wholesome article that can be used for tarts, far surpassing most of the fruits used for that purpose. It is probable, we think, owing in part, if not altogether, to the great difficulty which it has hitherto had to encounter the first season, when raised from seed. The little then known, by us, of the habits of this plant, rendered its culture precarious: in fact, failure is certain to ensue, when the treatment is the same as that followed for other plants. In what way this was to be varied, required several experiments to test. Seeds sown and the young plants treated as is usual, that is, kept free from grass and weeds, and left exposed to the full influence of the sun, would thrive at first, whilst the heat was moderate, but as its intensity increased, they would gradually die off, and finally, not a single one would be left to reward the cultivator for his trouble and expense.

An improper situation of ground may also have had some effect in producing the result, although we are inclined to believe, that they could not be carried through our summers the first year from seed in any locality, if fully exposed to the rays of the sun. The obstacles to its successful introduction and general diffusion among us, are certainly considerable, but we hope, are not insurmountable, and if we can place reliance on the experiments of two successive seasons, we have strong reasons to believe, that the principal difficulty which has hitherto retarded the extension of its culture, even in more favorable climates, can be overcome. There may be others to be met and conquered before we can successfully cultivate it here, but science and skill can accomplish much, and we hope the exertions of the members of this society will not be wanting to aid in its introduction. With the hope that the little experience we have gained may be of service; we will give an account of the experiments made and their results, leaving it to others to determine what alterations they will make in such as they may institute.

In England, there appears to be no difficulty in raising this plant in any quantities; at least, we know not of a single writer who mentions any. In the northern states, on the contrary, it must be partially protected, during the first summer, and we find Messrs. G. Thorburn & Sons, in their directions for its culture, recommending that a board be placed to the south side of the row, partly inclining over, which would protect it from the sun without depriving it of sufficient light and heat. This precaution is necessary only the first year, for it is said to be extremely hardy ever after. The mode recommended by Messrs. Thorburn & Son, would not, we are certain, answer in this climate, owing to the greater intensity of our heat. Fortunately for us, however, we have discovered that it will grow luxuriantly in perfect shade, in localities where the sun never shines. We shall have occasion to refer to this again when we relate that part of our experiment.

The first attempt we made to cultivate this plant was in the spring of 1831. On the 16th of March, we sowed seeds of the *Rheum rhabarbaricum* and *R. undulatum*. We sowed seeds also of other varieties, but as they did not vegetate, we shall omit noticing them. The ground selected was a light, dry and sandy spot, fully exposed to the influence of the sun. Another parcel was sown a few days after, on what the gardeners here technically call "medium ground," that is somewhat low, but yet not so much so, as to have any water lodge on it, from heavy falls of rain. It might be called a sandy loam, in which, however,

the sand greatly predominated. It was the termination of a piece of sloping ground, and was formed into beds of six feet width, by drains which served to keep the whole dry and carry off all surface water. The beds were prepared by having some well rotted manure spread over them, and spaded in. Rows were then made twelve inches asunder and about half an inch deep, and the seeds sown therein and lightly covered.

In about ten or twelve days they were up, and were fated at the very commencement to exhibit their hardness, for they had not been long up, (the oldest not more than three weeks, and youngest one week,) when we were visited with one of those violent and destructive cold northwest winds, which destroyed almost every vegetable (sown that spring) on the farm, although the most of them were well protected, and in ordinary cases would have been preserved. The young rhubarb plants were not in the least affected, and we are not aware that a single plant perished in consequence of it, although some were left unprotected. Scarcely had they escaped this danger when they encounter a heavy fall of rain, which at this early stage proved very destructive, beating down the young plants and burying them in the earth, by this casualty, we lost a large portion of them; it, however, can always be guarded against.

(To be Continued.)

RURAL ECONOMY.

OUT-BUILDINGS.

MA. SMITH: *Woodside, (Del.) Jan. 30, 1833.*

Allow me to offer a few remarks upon the subject of out-buildings, it is one our farmers are generally too little interested in, but which in my opinion ought to command their earliest attention; I allude particularly to shedding for the stock, contrived so as to hold their provender at the same time form a covering for them. I have myself given it a fair trial and am convinced of its importance; instead of building such very large barns as appears commonly to be the aim of our agriculturists, let them be of a sufficient size to hold all the grain and hay enough for the stock which is quartered under it, erect shedding connected with it of sufficient dimensions to allow all the animals which the provender will maintain to be kept under it, each having a separate stall; then they all fare alike, the coward as well as the master animal, and no hay is wasted, as each one can eat his own without being incommoded by the rest; the other, and I am sorry to say, by far the most general plan of giving them their hay in cribs, dispersed through the yards, is attended with great waste, as the hay from remaining in a bulk in the mow adheres together, is dragged from the cribs as they are constantly driving each other about, and always carry more or less with them, the most of which is dropt and trampled under foot, they also receive a great drawback from lying out at night, exposed to all weathers, obliged to make their beds where they best can, in the wet and dirty yards, (which they will always be in moderate and wet weather,) or if they have, as sometimes is the case, a shelter to go under, it will be occupied by a few of the master animals, leaving the others entirely unprotected from the weather; on my plan, all are sheltered alike, each one having a comfortable dry bed to repose on and allowed, unmolested, to enjoy his food and it. I believe in this plan one-fourth as many more may be kept on the same provender; my corn fodder I feed in cribs, in the yard, which I give them at noon, but all the hay is eaten by them in their stalls. Perhaps it will now be proper to mention my plan of shedding, it joins with the barn on the west end, runs round the north and west side of the yard one hundred and thirty feet, forming an L, which protects the cattle entirely from the north and northwest winds, and leaves it open to the south, it is sixteen feet wide, a wall is carried up seven feet

high on the back, with pillars next the yard, upon which the shed rests, the back from top of wall to eaves is nine feet, the front from top of pillars eighteen feet, is divided underneath into stalls eight feet nine inches long, and three feet nine inches wide, (they are required to be narrow to prevent the cattle from turning round after they are in their places,) each stall has a gate in front fastened with a wooden bolt, there is an entry back of them four feet wide, into which are funnels, convenient distances apart for putting down the hay; each stall has a crib, the width of the stall for both hay and meal, after putting the hay into the cattle, by going over the entry with a rake, none need be lost or trampled under foot; this entry connects with the entry of the barn. With shed and barn I stall sixty head, which at present is the number my farm is capable of maintaining. I have another shed, which connects with the east end of the barn, of the same width and height, but instead of opening towards the yard it is reversed and makes an excellent cart shed. Also under the same shed, a room is petitioned off for a tool house, in which are kept all our small working implements, so that when a hand is sent to a job, he need not spend half an hour or more in looking for a tool, which has been left where it was last used for want of a proper place to put it away. Convenient to the barn is a wagon house, divided over head into two rooms, one fitted up as a work shop, (which is indispensable) the other a receptacle for many different articles; against this building is another for our larger tools, such as ploughs, harrows, &c. My corn cribs are on each side of the gangway into the barn—which is much more convenient for getting it out, but is rather more liable to be disturbed by vermin, under this is a cellar for Ruta Baga, which joins with the entry of the barn, trap doors are fixed in the floor for shooting the roots directly down.

I have written much more than I at first intended, and for fear of becoming tiresome, I will conclude, with my sincere wishes for increasing patronage to your very valuable paper. S.

HATCHING CHICKENS IN THE BARK-BED OF A HOT-HOUSE.—A friend of mine was very successful last year in hatching chickens in the tan pit of a hot-house. His method was to place a half hoghead barrel in the tan, which was brought up all around it nearly to the top of the cask, and was merely covered with a flat board. The eggs were placed in a basket at the bottom, and covered with a piece of flannel. The heat required is 104 degrees Fahrenheit; a degree or two above or below that point will not destroy the eggs, but the nearer it is kept to that heat the better. It may be supposed that it will require a great deal of trouble to keep it up to this nicety, but it is not so troublesome as may at first sight be imagined. It may also be asked, what advantage is to be derived from this process, when plenty of setting hens can be procured? I answer, that the chickens may be hatched much earlier than hens will want to set; in fact, the hatching may be commenced as soon as eggs can be procured; and, of course, the poultry to be obtained will fetch a much greater price from their early production. They may be easily reared by being kept in the house when they are hatched, until they are big enough to be put out of doors, which will be in about a fortnight or three weeks. When the cask is once at the proper heat, it may be kept up to the desired point without much trouble, for several months; and the average number of chickens will exceed what is obtained from hens. I have read a French work by De Reaumur, giving a very circumstantial and interesting account of hatching chickens, by heat produced by horse dung, and I have produced chickens by that means myself; but the heat requires to be very often renewed by fresh dung, and the place must be particularly favorable to the undertaking. There is also great risk of the germ in the eggs being destroyed by the damp effluvia arising

from the dung, which causes the success to be very uncertain. Besides, every gentleman's gardener has a tan bed at his command. I am also of opinion that many of your correspondents might connect a hot closet with the stove used for heating their houses, or might allow the pipes for circulating hot water, where that system is adopted, to pass through it, by which means it might be kept up to the required heat with very little trouble. With respect to the tan bed, it is reduced to a certainty by the experience of my friend. He has hatched several broods this spring, and I can assure you that the chickens brought up in this way have thrived and increased in size much more than those hatched and brought up by a hen; and that this has been proved several times, by a comparison between chickens hatched in the different modes in the same day.—*London Gardener's Magazine.*

RECEIPT FOR GOOD HOUSE SOAP, &c.—Having lately returned from the sea shore, where the house-keeper had but twenty bushels of ashes, he informed me that he made a barrel of superior soft soap with ten bushels of clam shells burnt, added to the above quantity of ashes. Clam shells not only make good soap but the whitest and the best cement, and the best of lime for mortar and whitewash for ceilings. *[New England Farmer.]*

CURE FOR THE HEADACHE.—We find the following in an old almanac. We do not undertake to insure its efficacy, but are sure that it can do no harm, and would therefore advise its trial.

"A medical friend informs us, that after exercising his utmost skill to cure, or even alleviate a very distressing case of headache, in a distinguished character, in which he was unsuccessful, after the use of bark, valerian, steel, assaefetida, magnesia, volatile alkali, mineral acids, mercury and arsenic; an old woman proposed the use of milk, by taking a tumbler three times daily, which effected a cure. A headache very generally proceeds from the disordered state of the liquor of the stomach, (gastric juice.) Perhaps the milk may produce its beneficial effects by neutralizing acids and thereby removing the irritation in the nerves of the stomach, which directly sympathize with those of the head."

FUNGI.—The natural history of these plants is replete with interest, and they are constantly laboring for the general advantage. The quickness of their growth, says Professor Burnett, is astonishing, and the rapidity of their increase all but past belief. The bovista, or full-puff-ball, has been computed to grow at the rate of many million cells per minute, upwards of a million per second; and to be, when at maturity, so many times larger than when beginning to germinate that figures shrink from the expression of the sum; and Fries asserts that he has counted in a single individual plant of the smaller kind called smuts, ten millions (!) spores, so subtle that they rise into the air like smoke; and hence, although lost in astonishment at their prolific powers, our wonder ceases that they should be every where dispersed and colonize every spot that affords fit nutriment for their growth. There are three groups or orders of fungi: blights, blasts, and mildews; puff-balls, truffles, &c. and mushrooms and toadstools.

OIL OF NOYEAU.—This oil, according to a recent French scientific journal, may be thus made:—Take five pounds of bitter almonds and digest them at a moderate degree of heat for eight or nine days in ten pints of brandy at 25 deg.; then distil the mixture in a balneum marie, in order to reduce it to six pints; afterwards add 25 pounds of syrup of sugar, and mix the whole with care.

[It may dilute, but it is difficult to perceive how milk can neutralize an acid.—*Ed. Am. Farmer.*]

Prices Current in New York, February 2.

Beeswax, yellow, 18 a 20. Cotton, New Orleans, .11 a 13; Upland, .93 a .11; Alabama, .92 a .12. Cotton Baggins, Hemp, yd., .13 a .14; Flax, .13 a .14. Flax, American, 7 a 8. Flaxseed, 7 bush. clean, 15.50 a 15.75; rough, 15.00 a Flour, N. York, bbl. 5.75 a 5.87; Canal, 6.00 a 6.31; Balt. How'd st. — a —; Rhd city mills, 6.68 a . . .; country, 5.75 a 5.87; Alexandria, 6.00 a 6.25; Fredericks', uncertain; Peters', new, 5.75 a 5.87; Rye flour, 4.00 a 4.12; Indian meal, per bbl. 3.75 a . . .; per hhd. 17.00 a . . . Grain, Wheat, North, 1.18 a 1.20; Vir. 1.15 a . . .; Rye, North, .88 a .90; Corn, Yel. North, .73 a .75; Barley, . . 75; Oats, South and North, .45 a 50; Peas, white, dry, 7 bu. 5.00 a . . .; Beans, 7 bu. 7.00 a 8.00; Provisions, Beef, mess, 8.25 a 8.75; prime, 5.25 a 5.75; cargo, — a —; Pork, mess, bbl. 12.50 a 13.50, prime, 11.00 a 11.25; Lard, 7½ a 9.

A FINE JACK FOR SALE.

The Subscriber is authorized to sell a fine Jack of the breed of the KNIGHT or MALTA and ROYAL GIFT, about six years old; a very powerful animal, a sure foot getter, very gentle and easily managed. Price \$200.

Apply to I. I. HITCHCOCK,
American Farmer Office and Seed Store.

WHITE TURKEYS.

The Subscriber has for sale a few of the beautiful Milk White Turkeys, so much sought after for their picturesque effect in parterres and lawns. Price, \$4 a pair.

I. I. HITCHCOCK,
American Farmer Office and Seed Store.

GRAPEVINE CUTTINGS.

In a few days will be received and for sale at the American Farmer Office and Seed Store, a quantity of cuttings of the CUNNINGHAM AND WOODSON GRAPES. An account of the excellent quality of these grapes, both for the table and wine, will be found in the American Farmer, vol. xiv. No. 33, October 26.—The price of these cuttings is 8 cents each.

Also will be received, at the same time, a quantity of Norton's seedling grape cuttings. These grapes are said to be very superior to most native grapes.—Price 6 cents each.

Also a quantity of rooted Vines of the SCUPPER-NONG GRAPE from North Carolina. The character of the Scuppernong Grape is too well known to require description. Price, for two year old vines 37½ cents each, one year old 25 cents.

RED ANTWERP RASPBERRY BUSHES.

For sale at the American Farmer Office and Seed Store. Price, 12½ cents each; \$1.25 per dozen; or \$8 per hundred.

I. I. HITCHCOCK.

"SHAKER GARDEN SEEDS."

The Subscriber has been appointed by the United Society of Shakers, at New Lebanon, N. Y. agent for the sale of their celebrated GARDEN SEEDS, which may be obtained from him hereafter, by wholesale or retail. He has this day received direct from the Society, 14 boxes, each comprising an assortment, more or less extensive according to its size. Of these a part are small "Family boxes," containing a quantity suitable for a common garden, with a list of contents annexed. The character of these seeds is too well established to need recommendation. Apply at the American Farmer Office and Seed Store, No. 16, South Calvert-street.

I. I. HITCHCOCK.

SILKWORM EGGS WANTED.

Wanted at the American Farmer Office and Seed Store, No. 16 South Calvert street, a quantity of Silkworm Eggs, for which a fair price will be paid, by

I. I. HITCHCOCK.

WANTED,

At the American Farmer Office and Seed Store, all kinds of GRASS SEED, CLOVER SEED, and choice Domestic Animals. Apply to

I. I. HITCHCOCK.

SPLENDID PÆONIES.

Just received and for sale at the American Farmer Office and Seed Store, a few of the POPPY FLOWERING TREE PÆONY, (Pæony arborea pappaveracea), and of the TREE PÆONY, (Pæony arborea). To experienced florists it might be needless to say a word about the great beauty of these plants; but the public generally may not be as well informed. A recent publication on horticulture thus describes the tree pæony: "In the gardens of China they cultivate an immense number of varieties of this splendid plant,—some of which are said to be sold as high as a hundred ounces of gold; and in so much esteem it is held by them that it is there called the 'king of flowers.'—*Prince's Treatise on Horticulture.*" Of the poppy flowering pæony the same work thus speaks: "The flowers of this plant are single or semi-double, but being of a pure white color, with a purple centre, they combine a delicacy calculated to excite great admiration; it is also more rare than the tree pæony, and it is but a couple of years since Messrs. Prince paid five guineas for a very small plant." Price of the poppy flowering pæony \$5 each, and of the tree pæony \$2.50 each.

BUFFALO BERRY TREE, OR SHEPHERDIA.

A small number of these splendid trees, natives of the Rocky Mountains, and equally desirable for their fruit, and their beauty, have just been received and are for sale at the American Farmer Office and Seed Store, No. 16, South Calvert street. Price \$1 each. Those who want them would better make early application, as the demand is great and the supply scanty.

I. I. HITCHCOCK.

FRESH GARDEN SEEDS.

J. S. EASTMAN, at No. 36 WEST PRATT STREET, has just received a supply of fresh Garden Seeds, imported by Mr. Samuel Allt, whose seeds have been so highly estimated by the public for many years past, and which he feels a confidence in recommending to his customers, whose orders will receive prompt and particular attention.

The public has been informed from another source, that I have parted with some of my late workmen in my manufacturing establishment; and while I acknowledge this fact, I would also inform the public, that their places have been filled with equally faithful and experienced workmen, who are fully competent to sustain the credit of my shop; and my customers may depend on my continuing exertions to do them justice in materials and workmanship, and to afford my implements of husbandry on as reasonable terms as they can be obtained elsewhere.

Jan. 25.

STRAW CUTTERS, CORN SHELLERS, &c.

SINCLAIR & MOORE, offer for sale a variety of kinds of Straw Cutters, the Cylindrical of the following sizes and prices, viz. 11 inch box at \$27. 14 inch at \$45. 16 inch at \$55. 20 inch at \$75. The smallest (price \$27) will cut 300 bushels of straw one inch long per day, and is precisely the kind spoken of in the following note, addressed us by the proprietor of the American Farmer:

GENTLEMEN:

Baltimore, October 2, 1882.

John G. Eliot, for whom we bought one of your Straw Cutters last year, writes me thus, under date of Sept. 20, 1882:

"The Cutting Knife answers well. I would not be without it for the price of two."

I have much pleasure in communicating the above, for I think the instrument well deserves the compliment thus bestowed on it. Yours, truly,

SINCLAIR & MOORE, Balt.

I. I. HITCHCOCK.

The second size has cut, in the vicinity of Baltimore, seven hundred bushels per day, with manual power.—The third and fourth are capable of much more, particularly with horse or water power. These machines may now be expected to go into more general use, as they can be furnished at a more moderate price.

Also circular knife self-feeding boxes at \$5. Common Dutch box at \$7.50, and smaller size at \$5.

CORN SHELLERS, with vertical cast iron wheels, very durable and easily kept in order, which shell with great ease and rapidity, price \$20. CAST STEEL AXES, with a general assortment of AGRICULTURAL IMPLEMENTS and GARDEN SEEDS.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—The produce market continues inactive—literally nothing doing. Millers continue to store Howard street flour in preference to receiving \$5.25, which dealers appear willing to give. Our quotations exhibit the state of the grain market pretty accurately; but the very small business doing even in wheat and corn renders it impossible to say what effect a revival of business may have upon it.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.50 a . . . Rappahannock, 3.00 a 4.00.—Kentucky, 3.00 a 8.00. The inspections of the week comprise 2 hds. Md.; and 13 hds. Ohio—total 15 hds.

FLOUR—best white wheat family, \$6.75 a 7.25; super Howard-street, 5.50 a . . .; city mills, 5.50 a . . .; city mills extra 5.50 a . . .; CORN MEAL bbl. 3.50 a . . . GRAIN, best red wheat, 1.10 a 1.14; white do. 1.16 a 1.20; —CORN, white, 65 a . . ., yellow, 65 a . . .; RYE, 72 75 —OATS, 40 a 41.—BEANS, 75 a 80.—PEAS, 65 a 70.—CLOVER SEED —a —TINOTHY, —a —ORCHARD GRASS 2.00 a 2.25.—Tall Meadow Oat Grass 2.00 a 2.50.—Herd's, 75 a 87½.—Lucerne —a 374 lb.—BARLEY, FLAXSEED 1.50 a 1.62.—COTTON, Va. 10 a 12—Lou. 12 a 15—Alab. 10 a 11½—Tenn. 10a. 12; N. Car. 10 a 12; Upland 10 a 12—WHISKY, hds. 1st pr. 25½ a . . .; in bbls. 30 a . . .—Wool, Washed, Prime or Saxony Fleec 45 a 50; American Full Blood, 38 a 42; three quarters do. 33 a 38; half do. 30 a 33; quarter do. 28 a 30; common 25 a 28. Unwashed, Prime or Saxony Fleec, 25 a 30; American Full Blood, 22 a 25; three quarters do. 20 a 22; half do. 18 a 20; quarter do. 16 a 18; common, 16 a 18 HEMP, Russia, ton, \$180 a 210; Country, dew-rotted, 6 a 7c. 1b. water-rotted, 7 a 8c.—Feathers, 87a 38; Plaster Paris, per ton, 5.50 a . . . ground, 1.50 a . . . bbl. Iron, grappig for foundries per ton 33.00 a . . .; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 75.00 a 85.00.—Prime Beef on the hoof, 5.50 a 6.25.—Oak wood, 4.00 a 4.50; Hickory, 5.50 a 6.00; Pine, 2.25.

CONTENTS OF THIS NUMBER.

Editorial; American Wine and Grapes.—Exhibition of Stock, Sheep, &c.—Effects of Lime on Soil—Rust in Cotton.—Size of Cultivated Farms should be regulated by the force employed on them.—The great Advantages of Manure—On the Cultivation of Corn, Cotton, &c. near Paris, Tennessee, by James Jones.—Essay on the Culture of Grapes and Making Wine, by N. Herbemont, containing every direction necessary to a perfect understanding of the business, as deduced from the practical experience of the author.—On the Culture of Rhubarb, by John D. Legare, Editor of the Southern Agriculturist.—Communication on Out-buildings, &c.—Hatching Chickens in the Bark-bed of a Hot-house.—Receipt for making good House Soap.—Cure for Headache.—Natural History of the Fungus.—To make Oil of Noyau.—Prices Current of Country Produce in the New York and Baltimore Markets.—Advertisements.

Special Agents for the American Farmer.

The following persons are authorized to act as Agents for the American Farmer in their several places of residence:

Boston,	John B. Russell, N. E. Farmer Office.
New-York,	J. H. Gourlie, at the Post Office.
P. D. & C. Landreth, 55 Chestnut street.	
Philadelphia,	B. E. Freymuth, Marble Court.
Washington, D. C.	P. Thompson.
	Cable & Co.
Petersburg, Va.	Thomas Coleman.
Raleigh, N. C.	Joseph Gales & Son.
Camden, S. C.	P. Thornton, Post Master.
New Orleans,	Wm. McKean.
Nashville, Tenn.	Eichbaum & Norrell.
Natchez, Miss.	Frederick Staunton.
Port Gibson, Miss.	Passmore Hooper.
Salem, N. J.	H. H. Ellwell.
General Agent for the State of Maryland,	T. B. Breanna.

✂ DIRECTION OF LETTERS.—Address all BUSINESS letters concerning the Farmer, the store, or the agency, to the proprietor, "I. I. Irvine Hitchcock, Baltimore, Md."

Printed by J. D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, FEBRUARY 15, 1833.

LETTERS OF CHARACTER.—Why will not gentlemen be more particular in giving letters of character to persons who have been in their employ? We have seen instances of persons of the most dissipated habits, and quite deficient in their professional qualifications, exhibiting letters of recommendation from gentlemen of undoubted responsibility! Indeed but a few days since an instance of this kind occurred in our own establishment. Many gentlemen resort to our Agricultural agency for overseers, gardeners, &c. and before any applicant for such situations is listened to, he is required to produce testimonials of character and qualifications. In the case referred to, a man applied for a most responsible situation as overseer and sole manager, on a place that is entirely under the control of such a person. He produced a letter from his last employers, setting forth his character and qualifications in such a manner that we could not harbor a doubt for a moment. The man was promptly engaged, and was about removing his family upon the place, when he was accidentally discovered on the road, in a state of beastly intoxication, rioting and committing outrages on every one he met. It is needless to say that he was promptly dismissed; but what are we to think of those who gave him the letter of recommendation? What ought the public to think of such an act? Suppose this man had been able to abstain from his beastly habits till he had got fairly in possession of the property, who can tell what the consequences might have been to the employer? The truth is, that gentlemen are too careless in this matter. No doubt they act from the most benevolent intentions, wishing to serve the man, and thinking they can do so in this way the most cheaply, indulging the hope, probably, that he will "reform," as he of course promises to do, they, without scruple, certify to his good character and qualifications, knowing at the same time that he possesses neither. Now there is no benevolence in such an act—they neither serve the object of their false benevolence, nor those who are so unfortunate as to employ him; for the act encourages him in his unworthy course by saving him from its most direful consequences. Gentlemen should reflect upon this subject; they should consider it in its true light. A letter of character is neither more nor less than the word of one gentleman given to another, for the truth of a fact stated. If one gentleman pledges his word to another that the fact he states is true, he must be believed—no gentleman would harbor a doubt on the subject. And yet the same gentleman shall write a letter describing such a man as worthy, and well qualified for a certain trust, having served him in such capacity faithfully, and to his entire satisfaction; while at the same time he knows the subject of it to be utterly unworthy of such a character! Such things have been, and are of too common occurrence, and we leave to a reflecting public the task of giving a name to such an act. We believe the public press would exercise its legitimate authority by publishing the names of persons so acting, with all the particulars, that the public might be put upon its guard; but such conduct has become so common, we are not sure the press would be supported in it.

Another evil is very common in these letters and probably more so than that above described, and also more injurious. It is almost always the case that in giving the really good qualities of the man, all his faults and deficiencies are omitted. Thus a man is represented as being a first rate farmer and overseer, being practically acquainted with this, that, and the other branches of agriculture, methods and systems; but, that he is an inveterate drunkard and utterly untrustworthy is entirely omitted. Now this is worse than the first subject of complaint; for in the sentence,

"a first rate farmer and overseer," the sober habits and trustworthiness of the subject are considered as included, for he cannot be so qualified without such habits and integrity.

Agriculturists are not alone subject to these evils—they pervade all professions and are rife in all departments of society, from the stable, and the kitchen, up to the public service. A good recommendation of a kitchen servant is as easily obtained, and no more to be depended upon than a political fib; and there is no man so poorly off for friends, let his character be what it may, but can get good recommendations for any office of trust and profit to which he has impudence enough to aspire. These evils however, are not within our immediate jurisdiction, but as they are intimately connected with those of which we have a right to take cognizance, we have taken the liberty of making a passing and very slight allusion to them.

We hope gentlemen will be more cautious in giving recommendations; and that, when they do give them, they will give the full character—it is as necessary for an employer to know the faults as the qualifications of those in his employ, and they should never be omitted.

ASPARAGUS.—We had made up our horticultural department, before the following excellent article reached us.

ASPARAGUS.—The valuable qualities of this plant, I believe are so generally known as to require but little description, and these remarks are only intended to direct the young practitioner in the most material items in its culture. I therefore hope to be excused from noticing the various ways recommended for its culture, but to state a plain method founded on practice.

The soil most suitable for this plant, is a deep sandy loam made very rich; if rather stiff it may be made of the proper consistence by the addition of sand. A warm protected, unshaded situation, will bring the plants into use early. The ground intended for the beds, should be made mellow and rich at least twelve inches deep. Some say two, three and even five feet deep is necessary to the most prosperous culture of asparagus; but the above is sufficient when the alleys are shovelled on the beds. The ground being well fined and manured lay out the beds four feet six inches wide, and the alley between them two feet, and shovel the mellow soil out of the alleys so as to raise the beds four inches above them, rake the beds level, and drive a good stake at each corner, to keep for years to come the exact corner of the beds. Then proceed to plant as follows, when the ground is not frozen and works well from first of November, to middle of April. Having first obtained good plants of one or two years' growth, strain a line along the bed nine inches from its edge, and open a trench or remove the earth six inches deep along the line and rather wide in the bottom; then set the plants nine inches apart in the aforesaid trench and cover them with the mould taken out, then remove the line one foot, and open along it one other such trench, and plant as before and so proceed, giving four rows to each bed twelve inches apart. If planted in the fall or winter cover the beds one inch thick with manure. If planted in the spring and soil not sandy, add the same thickness of sand, which is congenial to this plant, keeping the surface loose and clear of grass. Then keep the beds and alleys clear of weeds all summer, and late in November, cut down the tops, and shovel out the alleys, on to the beds, if clear of grass; if not carry it to the compost heap, and cover the beds an inch thick with manure, which will strengthen the plants and protect them from frost. As soon as the weather becomes mild in March, loosen and mix the grain and manure on the beds with a dung fork, taking care not to wound the crowns of the plants; then lay on an inch of sand as was done the first spring. If the plants and ground are good,

a few heads may be cut this spring, but not many, and as soon as the cutting is over, cover the beds one foot thick with straw, which keeps the beds cool and damp during the heat and drought of summer, and prevents the growth of weeds and grass, so difficult to eradicate from among the asparagus, and continue to dress the beds spring and fall as above, and the asparagus will be in great perfection for a much longer period, and at less expense, by the simple addition to former practice of an annual dressing of sand and straw—for further information and more minute directions, see C. McIntosh, Wm. Cobbet, M. McMahon.

ROBERT SINCLAIR.

CULTURE OF SILK.

Lowell, Mass. February 6, 1833.

The subject of Silk culture and manufacture in this country is one in which we have taken a deep interest, and upon which we have indited many a paragraph, without being able to witness any such influences therefrom as every one wishes to see the result of his efforts to do good. It cannot be expected, however, that we should attain perfection in raising and manufacturing silk in this country in a single year, or a dozen years. The introduction of a scheme of industry, which will, we trust, at no very distant day, give employment to the skill and enterprise of thousands of our countrymen, must be gradual, in order to be generous and lasting in its effects. If, therefore, we do not see nurseries of mulberries spring up as the reward of our well intended paragraphs, we can at least enjoy the satisfaction of knowing that they will not fail to spring up on account of our neglect.

We are glad to perceive that the Legislature of this Commonwealth have taken up the subject in good earnest. From the report recently submitted to the House by Mr. Wheelock, of Warwick, we learn that this important branch of industry, is becoming an object of increased attention, and that successful efforts in raising it have been made in almost every county of the State. The consumption of this article in the United States is believed to amount to not less than \$10,000,000 annually; of which Massachusetts alone is believed to consume not less than \$300,000.

One acre of full grown mulberry trees, it is calculated, will produce \$200 worth of silk—and the committee are further led to believe that a great portion of the labor of producing the article, "requires only the efforts of females, children and aged persons, in and about their homes, and that the amount of such in this commonwealth is very considerable, and that a field is here opened for a species of industry which at present is scarcely available at all, but if slightly encouraged might greatly add to the general mass of productive employment and wealth. Almost every farm in this commonwealth is capable of being made to produce the leaves of the white mulberry tree, which by a natural process, are converted into the rich and durable material of silk. Every farmer might raise in his family, at least, enough of this article to pay his taxes, without materially interfering with the requisite labors of the farm, or diminishing the usual amount of other agricultural productions." If each farmer in this state would devote a little attention to the raising of the mulberry tree, and allow his daughters to raise the silkworms, the profits to the state in a few years would amount in the aggregate to many hundred thousand dollars. Millions of dollars worth of raw silk are imported into France and England every year. The committee recommend a bounty of one dollar on every pound of silk reeled in this commonwealth, that is capable of being manufactured into various silk fabrics; also a bounty of one dollar a hundred on white mulberry trees, transplanted in a proper manner for the growth of the leaf. The art of reeling from the cocoons is rather difficult and discouraging at first; so that without some public aid few will be found to undertake it. To obviate this difficulty the proposed bounty is recommended.

[Journal.

AGRICULTURE.

(From the Genesee Farmer.)

ON THE GRASSES—VARIETIES BEST ADAPTED TO OUR USE—TIMES AND MANNER OF SEEDING, &c.

Marcellus, January 1, 1833.

[The reader will bear in mind that when the writer of the following article speaks of *herdgrass*, he means timothy, and *vice versa*—owing to the singular fact, that the timothy of the north is the herdgrass of the south, and the timothy of the south is the herdgrass of the north.]

The varieties of grass best adapted to our husbandry—the times when grass seed should be sown—the manner of doing it, and the quantity of seed requisite to be used, are all subjects of interesting consideration. These will be the subjects of my present essay.

1st. What varieties of grass can we cultivate to the greatest profit? Fortunately, we have the herdgrass, or timothy, and the clover. These stand at the head of our artificial grasses, or rather they stand with almost alone. Undoubtedly, as relates to grass husbandry, they are the true seek-no farther. It is believed no other grasses of equal excellence have ever been cultivated in this section of the country. We are not, therefore, to desire substitutes for these grasses. If we did, we should probably seek in vain for any others that would be equal to them in value. Yet these grasses, excellent as they are justly supposed to be, are not enough for all the various purposes of our husbandry. There are in the country some varieties of soil to which neither of them is adapted. Besides, it is profitable, in many cases, to cultivate several sorts of grass together; and in all cases, where fields are seeded with intent to occupy them for pasture, it would be good practice to sow an intermixture of seeds, containing many, no matter how many, varieties. I cannot stop here to detail the advantages which would result from such a practice. No doubt they would be considerable, and much more than sufficient to remunerate all extra expenses.

It is obvious that herdgrass and clover do not form a catalogue of grasses large enough to meet the exigencies of grass husbandry. Orchard grass (*Dactylis glomerata*) is cultivated to some extent, though I believe farmers in general have neglected to introduce it to their husbandry. Many writers have given it a high recommendation. Judge BUEL has spoken well of it, as may be seen in his essay on grasses, in the third volume of *Memoirs*. I myself have made some use of orchard grass to evident advantage. It being understood that this kind of grass would resist drought better than any other in use among us, I introduced it some years since, in connection with other grasses, to a small field intended for pasture, which, on account of its peculiar texture, was remarkably quick to feel the effects of drought. The advantages resulting from its use on that field have been most apparent. The field has subsequently been much more productive than it had been before; and it is worthy of remark, that the orchard grass does not yield to drought—does not retire and give place to other grasses, but gains strength, and extends its possessions annually.

Orchard grass comes to maturity two or three weeks earlier than herdgrass. Would it not for that reason be the better of the two to mix with clover for mowing?

The variety of grass known by the name of red top, grows extensively in the country, and it is believed there are but few farms on which some of it may not be found. It frequently produces large crops, and makes good hay, yet I think its culture should not be recommended, because when once it has gained possession of the soil, it is extremely difficult to dispossess it.

It happens that I have some knowledge of several

varieties of grass, celebrated in other countries, but which have not been much cultivated among us. In times long since gone by, I cultivated, for experiment, the sainfoin, the lucerne, the rye grass, and some others of less celebrity. It may not be interesting to bestow upon these some passing remarks. As to the sainfoin, the result of my experiment was such, as for a while to raise my expectations of its usefulness in this country. It grew with great luxuriance, appearing to be perfectly at home as to soil and climate. But alas! after a year or two, it was discovered that an insect annoyed it at its root. After that it had dwindled, and although I had extended it to different parts of my farm, yet it soon disappeared.

The rye grass did not at any time recommend itself as worthy of being put in competition with our timothy or herdgrass.

As to the lucerne, I have since regretted that I did not conduct my experiment more thoroughly, and extend it to a greater length. I never introduced this to my field husbandry. It grew in my experiment garden many years, occupying about three rods of ground. It always produced great borders, and was successful in resisting the encroachments of other grasses. This grass is of the clover family, and is remarkable for starting early in the spring, and holding on till late in autumn. If cultivated for mowing, it may be cut three or four times in a season, yielding a good burden at each cutting. I have the impression, that lucerne is adapted to our husbandry, and may be cultivated here to good advantage. Especially, if it is desired to practice the soiling system to any extent, that is, to keep stock during the summer upon grass cut daily for their use, the lucerne appears to be admirably adapted to that use.

Herdgrass and clover being, after all, the grasses most relied upon in the husbandry of western New York, it may be useful to make some inquiries relative to their comparative merits. They are both so intrinsically excellent, and so happily adapted to the culture of the country, that it would be difficult to say which could be spared with the least injury to the interests of agriculture. I am content that herdgrass and clover should be considered as equally meritorious, and as having equal claims to the favorable regards of husbandry. Yet as they differ essentially in their characteristics, and in their adaptation to soils, and many of the uses required, the cultivator not unfrequently finds it difficult to decide which of the two will be likely to subserve his interest to the best advantage. When pasture is the object, both should be cultivated together. The practice prevails to a considerable extent of cultivating them together when the intention is to occupy the ground for mowing. But this practice is liable to serious objections. 1st. Herdgrass and clover are uneven as to the times when they come to maturity—the clover being ripe and needing to be cut some weeks before the herdgrass is ready for that operation. 2d. Clover growing in meadows with herdgrass generally overpowers the latter, and gains such an ascendancy over it as almost to render it unproductive. Besides, if the land is rich and well cultivated, the growth of clover is generally so rank and exuberant as to injure its quality, and render it of little value for hay. 3d. It stands confessed, that of the two, herdgrass makes the better hay, and is attended with less expense in preparing and securing it for that use. From these considerations and others, I have, after contending many years for the indiscriminate use of clover, come to the following conclusions. 1st. That on strong and well cultivated soils, where the object is mowing, it is better to sow herdgrass, and that alone. 2d. As clover is better adapted to light, loose, and dry soils, and is itself a great improver of the soil, that on these it is better to sow clover, and if herdgrass be sowed with it, no injury will be done. Perhaps, on soils of the latter description, it would be better, instead of sowing herdgrass with clover, to sow clo-

ver and orchard grass together. It certainly would, so far as relates to even maturity.

It is not unlikely that the tall meadow oat grass, (*Avena elatior*), would be better to cultivate with clover than any other variety of grass known to us. This is cultivated in some parts of this state, and more extensively in some of the other states. It is highly recommended by Judge BUEL, and many others, but I have no knowledge of it derived from my own experience.

In nothing, perhaps, relating to the preparation and management of mowing grounds, is the general practice of farmers more exceptionable than in their slack and careless manner of seeding them. To have meadows well seeded is a fundamental concern. A failure in this will be fatal to the prospect of a good meadow, until the field shall have undergone another course of tillage, and be seeded again. It is not enough to go over the field once, as the practice is, and strew on a sufficient quantity of seed. It should be seen to, that the seed takes effect; and on a failure thereof, seed should be applied again, and perhaps again, until it does take effect. If, after all, there should be a failure, which I think rarely, if ever, need to happen, it will be better to plough up the field forthwith, than to occupy it as a half seeded meadow.

Some years since, I adopted a practice which I am pleased with myself, and which I can recommend to others. It is that of going over my field twice to perform the seeding process. The first process of seeding, and sometimes the second, is performed in the fall, but generally I defer the second till spring. A direction in going over the field is taken the last time different from that which had been taken before. The object of this is, to secure a more even distribution of seed, and its application to every portion of the ground.

The best time to sow herdgrass seed is in the fall. My practice is to sow it at the time of sowing wheat, and on ground prepared for a wheat crop. It may be slightly covered with a drag, but it is equally well, perhaps better, to sow it soon after the tilling process is completed, and let it remain uncovered.

The practice of sowing herdgrass seed in the fall merits high commendation. I consider it as almost an essential requisite to a good system of husbandry. The certainty that it affords of a successful result, is reason enough to be assigned in favor of the practice. But there is another considerable advantage. This will be found in a better crop of grass at the first cutting than could have been obtained if the seeding had been deferred till spring. Such will be the natural consequence, because the young grass will have had more time to gain strength, and establish for itself a firm root hold upon the soil.

In order to afford opportunities for seeding in the fall, a system of husbandry should be adopted that will allow wheat to be the closing crop of every course of tillage. But I stop here, with intent, at another time, to resume the subject.

DAN BRADLEY.

(From the Genesee Farmer.)

FLAX AND CHESS.

Palmira, 1 mo. 14, 1833.

An idea has been communicated, through the Genesee Farmer, that flax will turn to chess also. The subject being new to me, I conclude the notion must be of a very modern date; therefore, I wish to communicate, through the same medium, what has come under my notice respecting flax and some of its associates. New England being the land of my nativity, when I was about twelve years of age, I remember that flax had two kinds of plants for associates, which were injurious to the crop in that section of country where I lived: the one called no flax, or yellow seed; the other commonly called tangledweed, and sometimes blackseed. The latter I never have seen, to my knowledge, in this western country; therefore, I will give

some description of it: It being a kind of creeper, with small vines running several feet, and attaching its claws or fibres to the top of the flax; and, when this was the case,—that there was much of the blackseed sowed with the flaxseed, by dews and rains, before the flax came to maturity,—it lodged down and was rendered useless. In those days I have alluded to, my father made a flax machine, and when it was put in operation, it answered the purpose about to perfection. So, in course, flaxseed began to be brought to our mill, as we termed it. After a little instruction, it was my business to attend to cleaning the seed in the season of it, and so on for five or six years,—the seed being brought from the different parts of the town, and the adjoining towns. I lived in New England until I was twenty-one years of age, and do not recollect of ever hearing of such a plant as flax chess, or of seeing one of its grains, till I came to this western country. I well remember one circumstance that happened, which I will relate; perhaps it may throw some light concerning Zebra's chess field; and also, by a similar cause, the possibility that one acre of land, sowed with clean wheat, might produce a peck of chess, or more, without transmutation. An aged farmer brought a grist to our mill; it was the foulest I ever saw; it was principally blackseed. In cleaning, it reduced it about one half. I being at his house in seventh month after, he invited me to go and see his flax. I was surprised, it being all overrun with this kind of creeper, called tangledweed. So of course the flax was spoiled. He expressed himself thus: "There, you see how it is. I had calculated for a great crop of flax here. I have drawn forty or fifty loads of manure on this acre of ground. Now do you not think I ought to have damage for not cleaning the seed clean?" (as he had paid a round price for it.) I replied, I thought he had, if the fault were in me, or in the machine, and asked him if he discovered but what it was clean when he sowed it. He replied, he did not discover any thing but what it was. I then said, I believed there was another cause. On our return to the house, he being silent,—pondering over his damages, as I supposed,—it occurred to my mind to ask him when he cleaned that seed from the chaff. *Ans.* The latter part of winter. *Q.* What was done with the chaff? *A.* My seed was so foul, I did not clean all the seed that I had, and what remained with the chaff was carried into the yard for the cattle to eat. *Q.* And that same manure carried on the flax ground? *A.* Yes. I then replied, it was very evident what had spoiled his flax. He replied, he had never thought of the thing before; but part of the manure was taken from the stable. Then, I remarked to him, that would not make much difference, if the cattle that were stabled had access to it; for the probability is, that the blackseed would nearly all escape their gliders. He being silent a short space, he then said, Now I am fully satisfied; strange I never thought of the thing before. And now I will state, that the first flaxseed I sowed in this country, I discovered the plant called flax chess; and found, by inquiry, that there was more or less in all the seed in the neighbourhood, and continued so for about ten or twelve years. Then the same person I have alluded to, in a former communication, cleaned one peck of seed from two of its former associates,—chess and yellow seed,—by spreading about half a gill on a table at a time, and carefully picking out those seeds. And this kind of seed has been sown, for more than twenty years in succession, nearly every year. And I now have three bushels of seed that grew this last season, and, as far as I have examined it, I have not seen a chess or yellow seed in it. And I think if we use common sense, on account of association, there is no more ground to believe that this kind of chess originated from flax, than that the different kinds of docks originated from the various kinds of beets. As to Webster's definition of the word chess, I have no reason to dispute the correctness of it; for I know nothing to the contrary but what it is the general opinion of New England people

to this day. And admitting the doctrine of transmutation to be very ancient, I think it would no more prove the point at issue, than the conceived idea of the ancients proved that the earth was flat like a table, and had legs or pillars, and there rested upon something—no one knew what. And now, admitting that all the people of Europe had rejected the discoveries of astronomers on the principle that they never had travelled around the earth; and of course, they knew more about eating the produce of it than the shape. And therefore they would pound them in their own mortars; having no other but tradition for a mortar—a conceived idea the pestle; and had they continued to do so to the present day, America might have remained a vast howling wilderness, and the savage yell and the howling of the wolf still echoed from dale to hill—from Manhattan to Erie's shore; nor as yet the sound of a millstone been heard in western New York.

P. H.

(From the Genesee Farmer.)

ON THE USE OF FALLOW CROPS; SOWING WHEAT AFTER OATS, &c.

Marcellus, January 11, 1833.

It is believed that, in this section of the country, the wheat crop yields to the culturist better profits than any other that has been brought into general culture. Wheat stands pre-eminent, and is justly considered the grand staple of western New York. The culturists of the country should consider themselves as distinguishedly favored by the Providence of God, in having possession of a soil so happily adapted to the growth of this precious grain. What motives should induce them to pervert it, and apply it to such uses as have no tendency to sustain life, promote comfort, and celebrate the praises of the Creator? What should tempt them to put it in requisition for multiplying the causes of poverty and wretchedness, and scattering fire-brands and death throughout the country? Should there not be felt some misgivings when such are the objects of culture?

The wheat crop is not often applied to uses so nefarious. As the culture of wheat is confessedly the most profitable branch of our husbandry, it becomes farmers to adopt a system of practice that will allow them to cultivate it to the greatest extent, compatible with sustaining their farms in a good condition. To this end, they should avail themselves of all practicable opportunities for the introduction of fallow crops. By fallow crops are meant all such crops as can be substituted for summer fallows in preparing ground for wheat. I am not sure, however, that this is the exact definition of the phrase, as lexicographers would give it, but this is what I mean by it. With us, the principle fallow crops are peas, barley, corn and oats. To these might be added clover lays, that is, crops of clover, produced for the sole purpose of turning under to improve the soil, and form a preparation for wheat. But of these, although they have strong claims to the attention of farmers, I shall not speak at present.

It is so well and so generally understood that wheat succeeds well after peas and barley that little or nothing needs to be said on that subject. Yet it does not appear that peas are cultivated, in this section of the country, to any considerable extent. The pea crop seems to be held in much lower estimation among the farmers of the country than it was formerly. The truth I believe is, that as our lands have receded from their primeval condition, the pea crop has deteriorated. It is not then to be expected that this crop will be used very extensively as a preparation for wheat.

Barley justly possesses a good reputation as a fallow crop. And although it may be doubted whether our soil is, in all respects, happily adapted to its culture, yet it often produces good crops. It may be profitable to cultivate it to an extent limited to its demand in market; but this is not great, nor am I aware of any probable circumstance that will be

likely materially to increase it. This crop, therefore, although good for the purpose, so far as it can be brought into use, will not be enough to supply all the wants of farmers as to preparations for wheat.

Corn is classed among the fallow crops; yet I can scarcely admit its claims to a standing among them. Whether my views are correct or not, others may judge. Be that as it may, I am decidedly opposed to following corn with wheat. My reasons are: 1st. That to cut up the corn and remove it from the ground in season to prepare for sowing wheat, generally produces at the time an inconvenient pressure of business, and the work is rarely finished in season for the intended object. Wheat, sown under these circumstances, is generally got in out of season. 2d. Corn fields can always be reserved for a more profitable use. Instead of being required to produce only one crop of grain, and that too at extra expense, and under circumstances by no means favorable to success, such fields stand in readiness, and are in the best order, to produce two first rate crops of grain, the latter of which should be wheat. I advise then to let corn ground remain till spring, and then apply it to the use of a true fallow crop.

The fallow crop yet remaining to be considered, is that of oats. I am aware that the subject which I am now approaching will bring me into conflict with deep rooted prejudices, which prevail to a great extent. The sentiment has long prevailed, and it prevails now, that wheat will not succeed after oats. Bold, and perhaps presumptuous, as it may be in me to combat opinions so prevalent and so deeply rooted, yet I hazard the experiment, and hope to show that the popular sentiment, in regard to this subject, is not correct.

For thirty years or more, I have been in the practice, almost annually, of sowing wheat after oats. I do not recollect that I ever failed, in a single instance of the kind, of harvesting a full average crop of wheat, and in many instances my crops have been of the first rate order. In one instance, at the time of agricultural societies, I obtained a premium on wheat that grew after oats. I still continue the practice of sowing wheat after oats, and it is my invariable practice to apply my oat ground to that use. My success, as is well known to the most of my neighbors, is always good. In the last season I had a small crop of wheat which grew after oats. It was a fine crop, and, as admitted by all who noticed it, quite superior to any other in the vicinity.

Having attempted, by evidence derived altogether from my own practice, to establish a theory so much at variance with general opinion, it becomes me to make some remarks. 1st. It is admitted that the oat crop is not like that of peas or barley, a natural preparation for wheat. Perhaps it is not strictly proper to class oats among the fallow crops, because they do not appear to perform the office of a summer fallow in preparing the ground for wheat. Yet wheat will grow as well after oats as any other crop, but the ground must be prepared for it independently of any preparation made by the oat crop. It appears then, that the office of the oat crop is only to yield its own valuable produce, and to hold the ground in keeping for a wheat crop to follow it.

2d. It is important, when wheat is to follow oats, that the oats be got into the ground as early in the spring as practicable, in order that the crop may come to maturity early, and be got off in season to afford time to prepare the ground for wheat. Due caution in this respect having been used, the crop will generally be ready to be taken off early in August. This, supposing as I do, the middle of September to be the proper time to sow wheat, will allow five or six weeks to prepare the ground for a wheat crop. In that time it can receive the equivalent of a brief summer fallow. The tillage being easy, it can, at a small expense, be put in fine order for wheat. It should be ploughed immediately after the oats are removed and remain in that situation two weeks or more, until all the scattered oats shall

have vegetated and attained to some growth. Then it should be ploughed again and harrowed. After that it may rest until time to sow wheat. I generally harrow the ground before the seed is put on, and then, having done the sowing, cover the seed with a very shallow furrow, for which a light plough is used, and drawn by a single horse. Harrowing again finishes the process, and let me remark, now is the time to sow hordgrass seed.

3d. I am all along supposing that the field of oat stubble to be sown with wheat is in a condition of good husbandry; that before the oats grew upon it, it had undergone a regular and thorough course of tillage; had been well manured, and brought into a state of fine cultivation. I never grow oats only in connection with a regular course of tillage, using that crop as one of my rotation. It always occupies the penultimate place in the rotation, being the last crop of the series except the closing one, which is wheat.

If at the time of sowing wheat and closing the series there is reason to suspect that the soil is not so rich as it should be, a light coat of partially rotten manure, slightly covered beneath the surface, will be of great use to the wheat crop, and the subsequent crops of grass.

I have dwelt long on this latter part of my subject. I have done so because I knew that the theory which I was laboring to sustain was at variance with general opinion. For that reason it was thought necessary to be quite explicit, especially in giving the details of my practice. I hope what I have written will satisfy my readers that wheat may grow after oats very advantageously. I hope they will be convinced that there is no difficulty in planning husbandry so as to allow wheat to be the closing crop of every course of tillage. This I regard as a grand desideratum in husbandry. To the establishment of a theory admitting this, my aim in this essay and in my preceding one, has been constantly directed. If I mistake not, the object is attained. My next will be on the subject of summer fallows.

DAN BRADLEY.

HORTICULTURE.

WINE MAKING.

MR. SMITH: Columbia, S. C. Jan. 23, 1833.

My Dear Sir,—According to my promise in my last communication, I forward to you the sequel of the article on the culture of the vine and the making of wine.

Wine is the fermented juice of the grape; any thing else, though it may be called by this name is not wine, but only an adulteration or an imitation of it, which may be palatable, pleasant and, perchance, wholesome. By far the greater part of those liquors that are generally known by the names of "home made wine," "manufactured wine," &c. and even many that are sold as genuine, are compounds which are frequently injurious to health, and very seldom inoffensive as a usual beverage. It has been observed that the people of this country are more liable to dyspepsia, liver complaints and other diseases of a similar nature, and that the frequent use of ardent spirits, even in a very diluted state, or disguised under the form of various wines, is the chief, if not the only cause of it. A taste for strong wines has, unfortunately for us, been produced, probably by the first importers of wines across the ocean, who, fearing lest it should not resist the effect of so long a voyage, thought of securing it by adding to it a quantity of brandy; and a wine which is not strong enough, when drunk in a very moderate quantity, to produce something like an incipient state of intoxication, has been rejected as trash; and a decided preference given to such as had a powerful effect. Really good and genuine wine is among the best of the numerous blessings that a kind providence has bestowed on man, to

assist him in supporting the many vicissitudes to which he is exposed; and, without it, this would truly be "a valley of tears." But like most other valuable gifts, it has been abused, and what was intended to induce good and social feelings between man and man, to produce cheerfulness and a becoming hilarity, temperance and health, has been converted into an engine of mischief, ill temper and disease.

It is very difficult to counteract habits and opinions of long standing, even when they are admitted to be founded on error and very injurious. We cannot, therefore, expect to gain an unqualified assent to the propositions here above enounced, or that implicit submission will be yielded to them. Believing firmly as I do, that the promulgation of them, and the offering as a proof of the assertions here made, an opportunity of giving them a full trial, I conceive it my duty to exert my feeble efforts to induce the real philanthropists of this country, to make a full trial of cultivating the vine and of making wine which they will know to be unadulterated; satisfied that good genuine wine, like virtue, need only to be truly known to be truly loved.

The methods of making wine in various parts of the world are as diversified as the culture of the vine itself. They are founded, however, on general principles which must be understood before success can reasonably be expected. It is needless here to give an elaborate analysis of wine. It is sufficient to say that grapes being fully ripe, contain, besides other ingredients necessary to produce fermentation, a quantity of sugar which the process of fermentation disposes to be converted into alcohol, which may be obtained from it by the process of distillation. The unfermented juice of the grape, which is called "must," is very sweet; but when it has become wine by fermentation, scarcely any remnant of a sugary taste is perceptible. It has then become fit for use, being nutritive, stomachic and exhilarating according to the proportion of the sugar it originally contained, and the perfection of the fermenting process. Fermentation goes on, though insensibly, for a long time, even for years, when the liquor becomes more perfect, more mellow and pleasant: in short it becomes good old wine.

Before one proceeds to the gathering of the grapes, every implement used, vats, press, casks, &c. must have been prepared before hand with the utmost care. Great nicety and perfect cleanliness, are of the utmost importance; for there is perhaps nothing that takes so readily the taste of substances with which it comes into contact as wine. Every vessel, then, that is to contain it in any stage of the process must be properly cleansed, and if new casks are used, great care must be had that they have been well charred inside, and purified by repeated washings with water, common salt and lime or ashes. Some recommend a decoction of grapevine leaves poured hot into the casks, and afterwards well rinsed with pure water and well drained. If the casks have contained wine, one of the heads is to be taken out, and the inside will be found incrustated with tartar which must be scraped out, and then it is to be cleansed as above stated for the new ones, except that they need no charring, nor long soaking to extract the taste and coloring matter of the wood, as new vessels do. I have generally found that vessels that have contained French brandy, particularly that which is not highly colored, are the best seasoned of any for wine. Other spirits, such as whiskey, apple or peach brandy and rum give the casks a taste which can scarcely ever be got rid of. After the casks have been well drained and are dry inside, the finishing preparation is to burn a sulphur match within them, and put in the bung, when it is fit to receive the liquor. The sulphur matches are made by dipping strips of coarse linen or cotton cloth into melted brimstone. A piece of it about an inch wide and three or four inches long is enough for a quarter cask. It is lighted and suspended by a wire so as to be about the middle of the cask. The bung

is used to stop the hole and hold the wire to its place while the match is burning, which takes place in a minute or so. It is proper to observe that casks used for new wine ought to be very strong and of very thick staves, or else after the sensible fermentation is over, and the bung is driven in close, the insensible fermentation which still goes on, will force the wine through many places that would have contained almost any other liquid without the least leakage.

There is not much danger of the grapes being too ripe for wine, and the vignerons must be aware that it is only when grapes have acquired the utmost degree of maturity, that they contain as much sugar as is their nature to do, and that it is only during the last part of the maturing process that they acquire this most desirable ingredient; for grapes are fit to eat long before they are ripe enough for wine. It is very desirable to select good, dry and pleasant weather for the vintage, and to have gatherers in sufficient number to gather in one day, or two at the most, all the grapes that are to be made into wine at one time. The reason of this is obvious; for fermentation begins as soon as they are together in quantity and before they are mashed; so that any that had been gathered several days before, if mixed with the last, will be in different stages of fermentation, which may disturb the process in some degree. In gathering the grapes great attention must be given to the gatherers, that they pick out all such berries as may be rotten and all the green ones, and that they do not unnecessarily bruise them. Common scissiors with both points sharp, are the most convenient implement to gather the grapes with and take out the bad ones. The stems should be cut short and each bunch carefully deposited into baskets or other suitable and convenient vessels. These are occasionally emptied by the carriers into large tubs and carried immediately into the vat, if near enough, if not, into hogheads with one head out and set up in a wagon to receive the grapes, and thence, when full, carried to the vat. This is a large vessel made of oak, very strong and of a size proportioned to the quantity of grapes to be made into wine at one time, and the larger it is the better; for it is believed that the fermenting process goes on the better, the greater the quantity of matter in fermentation. The grapes are then to be mashed. There are various methods of doing this. The most common one is for men to get into the vat with their naked feet and legs and trample them down until they suppose every berry is bruised. A better and neater way is to put a small quantity of the grapes at a time into a box placed on pieces of timber over the vat, the bottom and sides of the box being perforated with holes. A man, then, gets in with a pair of wooden shoes used only for this purpose, and when the contents are sufficiently bruised, one of the sides, which is made to slide in and out, is taken out and the mashed grapes are shoveled into the vat, when another supply of grapes is put in, and so on till the whole of it is done. A better way still which I never have seen in use or ever heard of until I had contrived it for my own convenience; but which I have since seen delineated and recommended in Thiebault de Bernaud's Manual, &c. It is two rollers with each a crank. These rollers are about two feet long, more or less as may be needed and about six or seven inches in diameter. They are so placed on a frame as to be easily brought closer or farther apart, so as to crush the berries without cracking the seeds; to prevent which bad effect, I selected a very soft wood, the tupelo, so that the seeds would rather make an impression on the rollers than the latter on them, unless, indeed, they were much too close together. I found the proper distance to be about a full eighth of an inch. A hupper is so fixed above them as to bring the grapes readily to pass between the rollers. These are turned by two children, and it is so easy a work for them, that they must be continually checked for turning too fast. It is almost incredible what quantity of grapes can be most completely mashed in a

short time by means of this machine. It performs its operation certainly better and more thoroughly than can be done, I think, by any other means. It is most surprising that so obvious, simple and convenient a contrivance should not have been in use generally in Europe for centuries past! At this stage of the process, the quantity of saccharine matter contained in the juice is to be ascertained; for it would be a very useless and uncertain operation, if the fermentation had gone on for some time. This may be done by trying whether an egg will float in it, so as to have a small portion of it out of the liquid. Or by an areometer, which is the instrument I use. That of Beaume for syrup or for salt is the suitable one. The juice of my Madeira grape raises the instrument usually about 10° and it requires about half a pound of good sugar per gallon supposed to be in the vat to raise it to 13° or 14°, which is fully enough to make a good and durable wine. Some grapes, the Lenoir, for instance, are richer and the latter sometimes raises the instrument to 13° full; so that it is sufficiently rich to make a good wine without the addition of any sugar. After the whole has been well stirred in the vat, so as to have completely mixed the sugar with the mashed grapes, some of the must is again taken out and tried with the egg or the areometer, when sugar is again added, if insufficient. If otherwise, the vat is covered with boards and a cloth, and the whole suffered to ferment for one, two, three or more days, according to the temperature and the object in view, and the activity of the fermentation. As the weather is usually hot here at the season of vintage, I find usually twenty-four to thirty-six hours sufficient, particularly as the object is not to obtain a highly colored wine, and also for fear a longer fermentation with the must would extract from it; that is, from the skins, seeds and stems too much tannin, which might make the wine too astringent, which though very wholesome is not generally so palatable as a less degree of it. During the time of fermentation in the vat, its contents should be stirred several times, and the top, which has been raised, is to be depressed down into the more liquid part at the bottom. This is deemed necessary lest the top having immediate access to the air, should become too acid and impair the quality of the wine. I usually stir and push it down twice in about twenty-four hours. The vat being provided with a large cock two or three inches above its bottom, this serves to draw off all the liquor that will run out without pressure, and it is at once put into the casks ready to receive it. The remaining contents of the vat are then carried to the press to extract all the juice, and this last is either mixed with the former, or is put into separate vessels; for that from the press is more astringent than that which has run freely from the vat. When only a small quantity of wine is made, it is not usual to keep these two qualities separate, as it gives a great deal of additional trouble to have two sets of vessels, the contents of which are to be kept always separate. The casks into which this must be put, (for it is not yet wine,) are not filled by about three or four inches, according to their sizes. The object of this is to allow room for the continued fermentation, and prevent loss by the must running over. The bung holes are then covered by two or three vine leaves and loaded with a double handful of moistened sand. Some, instead of this, use small bags full of sand. Either act as a valve that will rise if the fermentation is violent, and suffer carbonic acid gas to escape. It is yet the opinion of some persons that the casks should be filled up, so that the rising of the froth and other matter excited by the fermentation should run out of the cask; but the only difference that I ever could find is, that in the latter case, some of the wine is lost with the foam, &c. Whereas, by the former process, it settles to the bottom and adds that much to the lees. The fermentation will go on for two or three weeks, decreasing gradually in energy, till at last it is insensible and is no longer heard by applying

the ear to the cask. When this is the case, the casks are to be filled up to within about an inch of the top and the bung driven in close. In this state great care is to be taken, and the casks visited at first often, about twice a day, lest the fermentation increasing should burst the cask or produce some leaks. The better to guard against this, a gimblet hole is made within an inch or two of the bung and stepped with a peg that can be loosened and taken out for a moment occasionally at the frequent visits to the casks. The taking out of this peg for a minute allows the escape of the gas and precludes all danger. The whole is finally left undisturbed for six or eight weeks, except that the casks are often filled up, for as the fermentation increases the bulk of the liquor, the vessel, which should be kept full, must be filled up when it has subsided. After, this, taking advantage of a clear cold day, the wine is to be drawn off its first lees, and put into other casks which must have undergone a due preparation to receive it. The fumigation with sulphur match is by no means to be omitted here; for it is then more necessary than at first. Its object is, besides purifying the air contained in the cask, to prevent an undue renewal of the fermentation to which the wine is liable after being stirred and thus exposed to the atmospheric air. Until this period the must, in its progress to becoming wine, is very harsh and unpalatable, and, to a person not accustomed to it, it would seem that it has spoiled and never can make good wine. It has now, however, become very pleasant, palatable and wholesome, although its fermentation is not fully completed. It becomes again, at certain periods, as if about to spoil and turn to vinegar; but the owner or his substitute need not be alarmed; for it is only produced by a slight renewal of fermentation, which though not otherwise perceptible, has in reality produced this effect; which will have disappeared in a few days or a week or two, with an evident improvement of the wine. These periods of renewed fermentation are said to be, first when the sap rises in the vine in the spring, second when it is in bloom, and then, when the fruit is acquiring its maturity. Although these are the observations of illiterate men who attribute to these periodical circumstances of the vine, the renewed fermentation of the wine, the fact is true, though the cause must be looked for elsewhere; probably that which affects the vine and that which affects the wine, are the same changes in the temperature of the atmosphere, together with the state of the vine.

The above described manner of making wine is the general practice founded on experience from time immemorial. (I must except the addition of sugar, which is not done in Europe, except by very few; and this is probably the reason that their wines vary more in quality, according to the seasons, than would otherwise be the case.) There are, however, many alterations, probably improvements, for the purpose of varying the qualities and properties of the wine. If a highly colored wine is desired, and this is much regarded in France, it is suffered to ferment longer in the vat. The coloring matter is obtained from skins by fermentation, which also extracts from the stems and seeds an astringent principle, which is very manifest in all red wines, and strongly marked in port. This astringency is certainly one of the good qualities of wine, when not in excess. I believe, that for one cask of white wine that is made in France, one thousand of red is produced. Some of the white wines are, however, more pleasant to delicate palates, (I mean generally, for there are many exceptions,) and in some cases are as wholesome, though their properties are different. The best white wines, if we except a very few of the choicest kinds, are probably those made of black grapes, of which champagne is the most noted. In making these wines, great precautions are necessary to prevent their acquiring any degree of color from the skin. It is according to the process of making champagne, that I make a white wine of my Madeira grape, which is known to a few gentlemen in Balti-

more, and to many in South Carolina. The process is as follows: The grapes being fully ripe, and the weather favorable, the gathering commences as early as possible, by day break if practicable, for it ought to be discontinued by the middle of the day, unless the sky is cloudy, for fear the heat of the sun should tinge the juice. They are gathered and picked with uncommon care, so as not to bruise them and leave no rotten berries in the bunches, the finest of which are selected. As fast as the baskets of the gatherers are filled, they are very carefully and gently emptied into the press, if near enough, if not, in tubs to be carried to it by men; taking the utmost precaution lest they should be bruised by either removal, for fear the fermentation should commence and color the must. The grapes are gently arranged by hand in the press, and when it is full, they are pressed down, though not very hard, without their having been previously mashed. The juice thus obtained has at this time a little color; but this is deposited in the bottom with the lees. It is then put into casks, and treated afterwards in the same manner, as according to the other process above described. Before it is put into the casks, the strength of the must should be tried, and such sugar added as may be needed. In order to have the wine effervescent, it must be carefully excluded from the air as much as practicable, the vessels kept full, bunged very close, and after it has been drawn from its first lees, it should be twice filled with the white of eggs or singlass at short intervals of time, so as to be able to bottle it in March. Very strong bottles should be selected for this purpose; the champagne ones being made for the express purpose, are probably the best. The corks should be of the very best quality, and fastened down with wire, or tied over with bladder, which answers both purposes of wire and wax.

Wine made in this manner is necessarily more costly than according to the other, for three reasons:—much more care and attention are required during the process; it is made of the ripest and most perfect juice; and lastly, because only a portion of it (about one-half) can be obtained by this process; for, on unscrewing the press, it is found that only the ripest berries are broken; all the others, though ripe enough for the usual purpose of making wine are left entire. The contents of the press have then to be passed through the rollers, or to be otherwise mashed, and put into the vat with the rest of the crop. This wine, when made with all due care, is nearly colorless, and, whether it is made to effervesce, as champagne, or not, is a very delicate and pleasant liquor, not having any of the astringency of colored wines. I have reasons to believe, that under certain circumstances, a small quantity of sugar-candy, about half an ounce per bottle, is added at the time of bottling it. This may add to its briskness, as it does to its taste. It is surprising to observe the difference between this colorless wine and the other made at the same time and with the same grape, the latter being fermented in the vat for twenty-four to thirty-six hours, more or less, as circumstances may require. Those which I make with my Madeira, which is a very suitable grape for the purpose, have apparently no points of resemblance.

Rather than interrupt the description of the usual process of making wine, I have not inserted in its proper place, a subject on which writers as well as practical men do not yet agree. It is whether it is best to separate the berries from the stems, or to leave them and ferment the whole together. It is very probable that in this, as on most subjects of difference, both sides are right in particular circumstances. The advocates for stemming the grape, say, that by this operation, the wine is more delicate, and has none of the roughness imparted to it by the stems in the other mode of proceeding, and that the skins and seeds are sufficient to give it a due degree of astringency. The other party say, that the wine fermented with the stems is much more durable, and that its roughness disappears in a great degree as the wine acquires age, and that the greater quantity of tannin which it has acquired

from the stems, and which produces its astringency, renders it a more tonic and wholesome wine, as well as a more durable one. Both are certainly correct to a certain extent, and where the grapes acquire a sufficient richness to make a desirable wine without the stems, as is generally the case in warm countries, it is certainly more pleasant to the taste, and where the grapes are deficient, the stems are properly left to add the very desirable quality of durability to it. When, therefore, it is desirable to stem the grapes, it is well to be informed of the speediest manner of doing it. Of the various ways which I have read of and tried, the following appears to me entitled to the preference. The grapes are thrown into a box, the bottom of which is made of canes, or narrow strips of wood, crossing each other so as to leave open squares of about three-fourths of an inch. This box being placed over a small vat or large tub, hoghead or the like, the grapes are rubbed by hand hard against the bottom, by which means the berries fall through and the stems being well shaken, are thrown into an empty vessel ready to receive them. These may be afterwards mashed and help to fill the vinegar cask. Some considerable time will be saved, when the grapes are stemmed, by placing the riddle or stemming box over the hopper of the rollers; for the berries, though a good deal mashed and bruised by the operation of stemming, are not sufficiently so. This operation adds a great deal to the time and trouble, at a season when both are precious.

It will perhaps be objected to my process of making wine, that, as I add some sugar to it, it is not the pure juice of the grape. True; but if the fruit is not sufficiently rich in saccharine matter, it seems to me allowable to supply the deficiency. It has been observed before, that the grapes of old vines are richer than those of young ones. The deficiency of sugar is therefore correcting itself gradually every year. Besides this, some seasons being very wet and cool, do not produce as rich a fruit as more dry and hot ones do; and it is well to know how to remedy the defect. Some persons recommend to supply the deficiency by the addition of brandy, which, I think, is objectionable—unless, perhaps, it be added before fermentation, when it is possible a chemical mixture may be the consequence, whereas, if it be added after the fermentation is over, the mixture is only mechanical. Whether it is prejudice in me or not, but I think it is always injurious to the wine to add brandy to it, unless it be done at the beginning of the process; and a great deal of it is probably evaporated during the fermentation. My little experience tells me, that spirits, either mixed with water or with wine, attack the nerves, and are productive of many disastrous consequences to health, destroying the tone of the stomach, &c. I have always been of opinion that brandy is never added to wine in France, unless it be to prepare it and make it suitable for certain markets abroad. I never have read any book, or seen any person having any knowledge on the subject, but denied stoutly such addition being made for home consumption, until very lately, when I read in the "Manual of the Wine Drinker," (a new book,) that, in the neighborhood of Bordeaux, a certain kind of spirit, called "trois-six," is put into the wine in specified quantities; and about the same time I saw a lady, who is the owner of vineyards in that country, who avowed the same thing. What "trois six" is, it is not possible for me to say from the name; but I presume it is alcohol, of a certain degree of strength. Be this as it may, I am satisfied it is only a recent practice in France, and I doubt its extension beyond the country where it is said to be adopted. Whether the practice is good or bad, I have no experience to determine; but it is very possible that the preference is given in that country to spirit over sugar, because the latter is much dearer than the former, in proportion to its effect.

There are various other processes of making wines of particular qualities, and in certain districts; but, as

I am not practically acquainted with them, I shall only notice them very briefly. In places where they wish to make a strong wine, without the addition of either sugar or brandy, they reduce the must by boiling,—evaporating a quantity of its water,—whereby the proportion of the saccharine matter to the liquor is increased. Others attain the same object by laying the very ripe grapes on an extensive floor on straw; so that they dry almost to raisins. The great objection to either of these modes of proceeding, in a country of beginners, is, that the quantity of wine made is thereby considerably diminished, and we naturally enough aim at quantity as well as quality, to which advantageous state of things we aim; and it appears to me more economical to supply the deficiency of sugar by sugar itself, than to do it by evaporating a part of the liquor.

There is another subject, intimately connected with wine making, which I have not yet noticed. It is the cellar. A good cellar,—one calculated to keep light and delicate wines,—ought to be so deep that no change of temperature is experienced in it throughout the year. It should also be rather dry than damp; for too much moisture is injurious to the casks. If I had such a cellar, I could easily make and keep wine without sugar; but in such as we have here,—dug only one, two or three feet deep, and merely covered by the floor of the house over it,—such wine would probably be too often affected, by the changes of temperature, to resist long. I have seen champagne, upwards of thirty years old, that had been kept in a cellar at least twenty-five feet deep, and it was as brisk as if it had only been two or three years old. We have then, as yet, no chance of getting accustomed to the use of very light wines, which are gentle in their effects, tonic, exhilarating, and not producing intoxication, unless drunk to a very great excess; and even then, the consequences of intoxication, by such wine, are not as injurious as that produced by the stronger ones. If, however, intoxication is the object, it is much more readily obtained by brandy itself, without resorting to the farce of drinking it mixed with wine and calling it exclusively by the latter name.

Where they have good and deep cellars, it is not usual to put the wine into them before it has been drawn off its first lees; but it is kept until that time in what is called a "cœler," which corresponds more with our cellars here. A good cellar, then, should be twenty-five or thirty feet below the surface of the ground, vaulted with stone or brick, and have apertures leading to the external air. Wine, in good casks well filled, or still better, in good bottles filled to very near the cork,—about three-quarters of an inch at most,—well corked and waxed, and kept in a cellar where there is no light or any change of temperature, must, if it were sound when put in, remain sound for many years, though it be not a very strong wine.

I have, sir, given you a very diffuse and prolix account of the culture of the vine and of the making of wine, in compliance to Pomoukey's and your wishes. I hope, however, it will be found sufficiently intelligible, and that your readers will be able to separate the wheat from the abundant chaff.

I am, sir, very respectfully, your obedient servant,
N. HERBEMONT.

EXTRAORDINARY MELON.—On the 10th of October there was cut in Mrs. Chepe's garden, at Strath-tyrn, Fifeshire, by John McKinlay, her gardener, a most enormous melon, supposed to be the largest which has been grown in Scotland. Its circumference measured in the one direction 363 inches, and in the other 384 inches, and the mass weighed 27 lbs. avoirdupoise; and what is singular, this gigantic specimen of the royal george melon was grown on a light sandy soil.—*Edinburgh Evening Courant.*

[It would have been still more singular if such a melon had been grown on any other soil.—*Ed. Am. Farmer.*]

(From the Southern Agriculturist.)

ON THE CULTURE OF RHUBARB.

BY THE EDITOR.

Read before the Horticultural Society, Oct. 16th, 1832.

(Continued from page 383.)

The great difficulty which has to be encountered in the culture of rhubarb in our climate, is from the great heat of our summers, and this proves peculiarly fatal to the young plants, if not guarded against. We accordingly endeavored to mitigate it, by erecting temporary screens over the beds—that, over those sown on the high ground was erected on the 15th of April, and consisted of a scaffolding three feet high, covered with palings laid at intervals of from three to five inches. That over those sown on the medium ground, was not erected for several weeks after, and also, consisted of a scaffolding, but instead of being covered with palings, bushes which had lost their leaves were placed over. The object in both cases was to break the rays of the sun, and consequently diminish its intensity, without entirely excluding it from the beds. Light and heat were therefore afforded in sufficient quantities for all the purposes of vegetation. The plants on the high ground continued to flourish until the very dry weather we had in May, when they commenced dying, and gradually disappeared one after the other, so that out of one or two hundred plants, not more than six or seven survived through the season. Those on the medium ground, continued to grow luxuriantly, and no doubt, would have succeeded admirably, had not an almost unprecedented high tide, in June, broken over our banks and penetrated to where they were planted, flowing into all of the ditches and partly covering some of the beds. Soon after the plants became sickly, and finally almost all perished—five plants only survived. These were manured in the spring. On the 31st of January, we found one plant sending up leaves, and on the 10th of February, leaves from all were generally through, and some of good size. The weather was mild, and peach and plum trees were in bloom—early in March they had progressed so rapidly, that had we not feared to injure the plants, we might have gathered them for use. On the 15th of March, occurred that spell of severe cold weather, which not only destroyed almost all vegetables, but even the branches of indigenous and exotic trees and shrubs. The fig trees in many instances were killed to the roots. Most of the rhubarb plants were protected by small quantities of straw placed over them, but this was of little service, for it was blown from many of them during the night, and the greatest injury appeared to have been done by the wind, which possessed such a piercing coldness, that few vegetables could withstand it. From the 15th to the 20th, it was intensely cold, on the 17th it froze very hard during the night, and on the 18th, there was ice of considerable thickness during the whole day in the shade. We feared much for our plants, but, to our great surprise, they passed unharmed through this unfavorable weather. Not a single plant was killed, and but two or three leaves (which were just emerging, and of course extremely tender) were injured—these were of plants which had been imported and planted out about a month previous, not a single leaf of those which remained undisturbed where they first grew, was at all affected. These plants have continued to grow with considerable luxuriance during the present season, and we have had three gatherings from them. Some of the leaves were exhibited at the horticultural exhibition in May last, and took the Society's premium.

Having received another supply of seeds last spring, we again sowed a parcel on the medium ground: from what we had seen of the growth of the plants last year, we determined to venture the whole there. It was sown on the same beds on the 24th of March, and came up in the course of a fortnight.

The seeds were not good, and comparatively but a small portion germinated. The treatment of these plants was throughout the same as those grown last year, except that, instead of placing palings or dried bushes over the scaffolding, green pine bushes were laid on, in such quantities as to exclude the rays of the sun, consequently these plants grew altogether in the shade, and had no light except what was admitted from the sides; yet, notwithstanding this, which would have proved fatal to almost all plants, these continued to grow with considerable luxuriance. We have succeeded far better this year than the last in growing them, as to size. In order to judge of this we will state, that a leaf which we gathered from one of the plants measured as follows—petiole nineteen inches, length of leaf upwards of twelve inches, (the end being broken off, the exact length could not be ascertained,) breadth ten inches, this was by no means the choicest, for it was not selected until after most of the leaves had decayed, and we think we saw several prior to that time which were larger. The leaves generally commenced dying in July, and by the last of August, many were entirely destitute of them, others had a few left. We at first thought that we had experienced a total failure, and that the plants were dying; but on examination, we found the roots perfectly sound, and the decay of the leaves was only in consequence of their having obtained their growth for the season. The rains in August and September, combined with the heat, have caused some few to put out leaves, generally, however, not more than one or two to each root, and these are small and feeble.

We have thus given all the information we are in possession of, relative to these two experiments. As yet, we have gone no further than the seed bed, and therefore, can say nothing of our own knowledge relative to their future management. Fortunately, however, ample instructions are to be found in all works on gardening; from sowing the seeds to forcing the plants in winter. As the subject is an interesting one, we crave the indulgence of the society if we trespass on their patience, whilst we give an abstract of the modes of management, selected principally from works which we believe are not in common circulation among us.

The following directions for its propagation and culture are taken from the Encyclopedia of Gardening, "All the sorts may be raised either from seed or by dividing the roots. If from seed, which is the best mode, sow in light deep earth in spring, and the plants if kept eight or nine inches asunder will be fit for transplanting in autumn, and for use next spring. When the roots are divided care must be had to retain a bud on the crown of each section: they may be planted where they are finally to remain. When a plantation is to be made, the ground, which should be light and rather sandy, but well manured, should be trenched three spits or as deep as the subsoil will admit, adding a good manuring of well rotted hot-bed dung. Then plant in rows three feet wide by two feet in the rows for the *R. raponticum* and *palmatum*, and five feet wide by three feet in the rows for the *R. hybridum*. No other culture is required than keeping the ground free of weeds, occasionally stirring it during summer with a three pronged fork, and adding a dressing of well rotted manure every autumn or spring, stirring the earth as deep as possible. Such a plantation will continue good many years. Some never allow the flower stalks to produce flowers, and others cut them over as soon as they have done flowering to prevent the plants from being exhausted by the production of seeds. The former seems the preferable method, as the flower stalks of plants cannot, like the leaves, be considered, as preparing a reserve of nourishment for the roots."

(To be continued.)

No man ought to be contented with any evils which he can remedy by his own industry and exertion.

RURAL ECONOMY.

IMPORTANCE OF SELECTING THE BEST BREEDS OF LIVE STOCK, PARTICULARLY OF SWINE.

MR. EDITOR: *New Haven, Jan. 20, 1833.*

I have noticed frequently and with pleasure, your remarks in regard to the importance of a careful selection of the various sorts of live stock raised in our country. If farmers were more particular to select the best breed of all the animals they raise, undoubtedly they would find it much to their advantage. There is perhaps in our country no animal in which there is a greater neglect than in swine; and it becomes every man who fattens a single hog, to look to it, that he gets one of the right sort. And if this is the case in regard to the man that has but one, how important is it for farmers throughout our country, that they raise only from the best and most approved breeds. It has been thoroughly proved by several persons in this region, during the last two years, that the advantages in the improved breed is greater than was before imagined. Trials have been made between the hogs of the common sort called good, and a breed introduced into this neighborhood by Mr. W. K. Townsend. They were imported from England three years ago, and are called by him the *Norfolk thin ring breed*. They are small bone, thin ring, the meat very fine grained, remarkably thrifty, and inclined to fatten early, or will continue to thrive until eighteen months old. It is not uncommon for fall pigs kept over the season to the next fall, to weigh from four hundred and thirty-five to four hundred and sixty lbs. and for spring pigs butchered in the fall to go over three hundred lbs. and this with ordinary feed. One of my neighbors who, three years since, tried hard to get two pigs of the old breed to weigh in the fall two hundred lbs. each, has the last season, with, he says, no more care, or no better feed, made two of this breed weigh six hundred and sixty lbs. He considers that he has gained at least one hundred lbs. of pork on each hog, by the change of breed. These pigs weighed the 1st April twenty-four lbs. each. A farmer, a few miles in the country, butchered two at thirteen and a half months old, that weighed rising four hundred and forty lbs. each, and he says he gave them the same care as he always had given his hogs; he asserts that he has gained fully two hundred lbs. of better pork than he generally had, which he says he credits to the breed. An old revolutionary pensioner purchased one of this breed from Mr. Townsend's farm in the fall of 1831, then a sucking pig, weighing about thirty-five lbs. and as he had made one from the same pen, just butchered, weigh rising of four hundred lbs. he declared that he meant, by the next fall, to make this weigh five hundred lbs. The hog was butchered, say the last of December, and the old soldier has gained one pound over his mark.—These facts are stated to induce others to try the experiment of selecting their pigs from the best breeds. I am convinced myself of the importance of it, and wish others, and especially farmers, to practice on this principle. D.

(From the Genesee Farmer.)

BEEES.

I presume not to be one of those persons of whom ULMUS asks information relative to the queen bee, not being an experienced bee-keeper; but I have read his article with attention, and am sure that the readers of the Genesee Farmer ought to feel very much obliged to him. The only little service that I can perform on this occasion, is to copy the published opinions of others; but if he has already seen them; or if any other correspondent has furnished any thing better, I hope the editor will not hesitate to destroy this paper.

Ulmus asks, "Does there exist more than one queen bee in a hive?" The reviewer of the Honey Bee,

published in 1827, on the authority of Dr. Bevan, (the author,) speaks as follows: "The queen is the parent and mistress of the hive." Again, "The queen bee is distinguished from the drones and workers by the greater length of her body, by the shortness of her wings, and her bent sting—she lays all the eggs of the colony." Further, "Such is the instinctive enmity against her rivals in power, that the instant she is left alone, she proceeds with full intent to slaughter all the young princesses of the blood royal." Dr. Bevan says, "Mr. Dunbar observed a hot pursuit of the younger queen by the elder; but being called away, on his return half an hour afterwards, the former was dying on the floor, no doubt the victim of the other."

That there is but one queen bee is the decided opinion of the most eminent apiarians; and in proof of this, may be cited the names of *Stummerdam, Reaumur, Wildman, Schirach, Bonnet, Huber*, and others.

This point, I think, may therefore be considered as settled; and the inference of Ulmus is inevitable: "Then a swarm cannot be increased beyond a certain number." If that number, however, is great enough, this circumstance will not be an objection; but of this matter I presume not to judge. Dr. Bevan says, "A moderate swarm has been calculated to consist of from twelve thousand to twenty thousand, which is about a two month's laying. Schirach says that a single queen bee will lay from seventy thousand to one hundred thousand eggs in a season."

Hopes were entertained that the bee-moth confined its flight within a few feet of the ground, and that it would not trouble bees in a garret. Ulmus has corrected this error. We are not informed however that he has employed any means to expel or destroy the moth except by watching; and I would therefore respectfully recommend to his notice the following extract from an article written by Judge Buel, and published in the New England Farmer.

"I asked him if the bee moth did not plague him? he answered no. He adopted the simple precaution of sprinkling spirits of turpentine occasionally, say every two weeks, about his ordinary hives, and around the holes of entrance into his large ones, which wholly repelled the moth. I was so much pleased with this plan of managing bees that immediately on my return I had a house constructed for them, and design to put into it, the first swarm which I can save." Judge Buel would greatly oblige us by a report on this subject, whether he has been successful or unsuccessful.

What follows is from the Western Tiller; "A friend informs us he has discovered by experiment that dry comb laid about hives, forms a trap for the bee-moth, by attracting the miller which deposits its eggs in the comb, where they are easily destroyed. A piece of comb which he placed for the purpose was completely filled with the moths."

Jacob Shepard, in a communication to the Bristol (Mass.) Agricultural Society, says, "I frequently strew fine salt at the mouth of the hives to prevent the worms from troubling the bees. I have kept bees four or five years, and have never been troubled with any kind of insects."

Ulmus has read Dr. Smith's Essay on Bees, and of course the following extract,—which is designed for such as have not read it,—will not be new to him: "A very simple plan consists in placing a burning lamp in a pail near the apiary. I have been quite successful in taking prisoners by this device, in the early part of the evening. A keg, because it is smaller at the top, by reason of the incumbrance of the staves, having in the mean time but one head, is the best trap. Some fresh honey, or if not readily obtained, even molasses, spread over the bottom, is the bait. All insects are particularly charmed by a bright light; and none more than the bee-moth. As soon as they discover the light, they fly towards it. Another sense, smell, is gratified by the odor of the food; and hence

they have a double inducement to enter into the trap, when the blaze of the lamp on their thin spread wings, give them the finishing blow, and tumbles them to the bottom. With a little management, thousands may be caught in a little time." A FARMER.

Prices Current in New York, February 9.

Beeswax, yellow, 18 a 20. Cotton, New Orleans, 11 a 13; Upland, 9 1/2 a 11 1/4; Alabama, 9 1/2 a 12. Cotton Baggins, Hemp, yd. 13 a 21 1/2; Flax, 13 a 14 1/2. Flax, American, 7 a 8. Flaxseed, 7 bush. clean, 15.25 a —; rough, 15.25 a 14.50. Flour, N. York, bbl. 5.75 a —; Canal, 6.00 a 6.25; Balt. How'd st. 5.70 a 6.00; Rh'd city mills, — a —; country, 5.50 a 5.62; Alexandria, 6.00 a 6.25; Fredricks's, 5.50 a 5.62; Peters's, new, 5.75 a 5.87; Rye flour, — a —; Indian meal, per bbl. — a —; per hhd. — a —. Grain, Wheat, North, — a —; Vir. — a —; Rye, North, .68 a .90; Corn, Yel. North, .73 a .75; Barley, — a .75; Oats, South and North, .45 a .50; Peas, white, dry, 7 bu. 5.00 a —; Beans, 7 bu. 8.00 a 9.50; Provisions, Beef, mess, 8.25 a 6.75; prime, 5.50 a 5.75; cargo, — a —; Pork, mess, bbl. 12.50 a 13.50, prime, 11.00 a 11.25; Lard, 7 1/2 a 9.

FRESH GARDEN SEEDS—NEW STOCK.

I am now receiving from Europe my supply of those Garden Seeds, which it is necessary to import, which together with those of my own raising, and other American Seeds, make my assortment one of the most complete ever offered in this market.

With regard to the quality of the seeds I offer, I can only say I am confident they are good—perfectly so, and I am fully aware that this circumstance is of far more importance to myself than to any of my customers. It is under this conviction that I offer my present stock to the public.

I. I. HITCHCOCK.

American Farmer Office and Seed Store.

BUFFALO BERRY TREE, OR SHEPHERDIA.

A small number of these splendid trees, natives of the Rocky Mountains, and equally desirable for their fruit, and their beauty, have just been received and are for sale at the American Farmer Office and Seed Store, No. 16, South Calvert street. Price \$1 each. Those who want them would better make early application, as the demand is great and the supply scanty.

I. I. HITCHCOCK.

A FINE JACK FOR SALE.

The Subscriber is authorized to sell a fine Jack of the breed of the KNIGHT OF MALTA and Royal Gift, about six years old; a very powerful animal, a sure foal getter, very gentle and easily managed. Price \$200.

Apply to

I. I. HITCHCOCK,
American Farmer Office and Seed Store.

WHITE TURKEYS.

The Subscriber has for sale a few of the beautiful Milk White Turkeys, so much sought after for their picturesque effect in parterres and lawns. Price, \$1 a pair.

I. I. HITCHCOCK,

American Farmer Office and Seed Store.

SPLENDID PEONIES.

Just received and for sale at the American Farmer Office and Seed Store, a few of the POPPY FLOWERING TREE PEONY, (*Paeony arborea pavarica*), and of the TREE PEONY, (*Paeony arborea*). To experienced florists it might be needless to say a word about the great beauty of these plants; but the public generally may not be as well informed. A recent publication on horticulture thus describes the tree peony: "In the gardens of China they cultivate an immense number of varieties of this splendid plant,—some of which are said to be sold as high as a hundred ounces of gold; and in so much esteem is it held by them that it is there called the 'king of flowers.'"—*Prince's Treatise on Horticulture*. Of the poppy flowering peony the same work thus speaks: "The flowers of this plant are single or semi-double, but being of a pure white color, with a purple centre, they combine a delicacy calculated to excite great admiration; it is also more rare than the tree peony, and it is but a couple of years since Messrs. Prince paid five guineas for a very small plant." Price of the poppy flowering peony \$5 each, and of the tree peony \$1.50 each.

SCIONS FOR INGRAFTING, &c. &c. LINNÆAN BOTANIC GARDEN AND NURSERIES.

WILLIAM PRINCE & SONS, Proprietors of this Establishment, having annexed thereto very extensive Specimen Orchards, containing all the varieties of fruit enumerated in their Catalogues, will, to accommodate distant correspondents, furnish Scions suitable for ingrafting, of any varieties that may be required on the terms stated at page 39 of their Fruit Catalogue, viz. fifty cents per dozen, for scions of any one kind where the price of the tree does not exceed that sum; and where it does, the same price for a dozen scions as for a tree. In no case is a less charge made than for a dozen.

Scions of Grapevines and of various Trees and Shrubs can be supplied. The great advantage of the above is, their small bulk and cheapness of transportation.

They have also imported, by the last arrivals, several thousand dollars worth of vegetable seeds of the choicest varieties, and will furnish supplies to vendors at low rates, and of a quality not to be surpassed.

They have two hundred pounds of Yellow Locust, or Robinia pseudoacacia Seed of the fine Long Island variety, so famed for ship timber, and expect by the first arrival one hundred pounds finest White Italian Mulberry Seed for silkworms.

Prices Catalogues of every department will be furnished on application direct, by mail or otherwise, and the prices have been much reduced.

N. B. No articles are guaranteed by them, unless the invoice has their printed heading and signature.

Feb. 15.

FIELD AND GARDEN SEEDS, &c.

J. S. EASTMAN offers the following Seeds for sale, viz. CLOVER, TIMOTHY, MEADOW OAT GRASS, MILLET, LUCERNE, COW PEAS, LARGE YELLOW PUMPKIN, and EARLY WHITE CORN.

Also a general assortment of GARDEN SEEDS, and WHITE ONION SETS.

Likewise in store, a general assortment of AGRICULTURAL IMPLEMENTS, embracing almost every article in the farming line, which he will sell low for cash or approved city acceptances.

He must decline opening any new accounts, except with those who will be liberal customers, and can give good references; and all such accounts he expects to be promptly settled once a year; and those who have accounts standing on his books over one year, are desired to settle the same. All Grass Seeds must be considered cash. Liberal discounts will be made on all implements purchased by merchants and others to sell again. Feb. 15.

STRAW CUTTERS, CORN SHELLERS, &c.

SINCLAIR & MOORE, offer for sale a variety of kinds of Straw Cutters, the Cylindrical of the following sizes and prices, viz. 11 inch box at \$27. 14 inch at \$45. 16 inch at \$55. 20 inch at \$75. The smallest (price \$27) will cut 300 bushels of straw one inch long per day, and is precisely the kind spoken of in the following note, addressed us by the proprietor of the American Farmer:

GENTLEMEN: Baltimore, October 2, 1832.

John G. Eliot, for whom we bought one of your Straw Cutters last year, writes me thus, under date of Sept. 20, 1832:

"The Cutting Knife answers well. I would not be without it for the price of two."

I have much pleasure in communicating the above, for I think the instrument well deserves the compliment thus bestowed on it. Yours, truly,

SINCLAIR & MOORE, Balt. I. I. HITCHCOCK.

The second size has cut, in the vicinity of Baltimore, seven hundred bushels per day, with manual power.—The third and fourth are capable of much more, particularly with horse or water power. These machines may now be expected to go into more general use, as they can be furnished at a more moderate price.

Also circular knife self-feeding boxes at \$20. Corn SHELLERS, with vertical cast iron wheels, very durable and easily kept in order, which shell with great ease and rapidly, price \$20. CAST STEEL AXES, with a general assortment of AGRICULTURAL IMPLEMENTS and GARDEN SEEDS.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—We make no alteration in our quotations, because there are no transactions to warrant it. Dealers are willing to give \$5 for Howard street flour from wagons; but the article is generally stored. We leave all our quotations of flour blank, for the above reason. What little grain there is coming in varies so much, according to circumstances, that we do not alter our rates, but wish them to be considered nominal.

TOBACCO.—Seconds, as in quality, 8.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 16 00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.50 a —. Hapahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 3 hds. Md.; 22 hds. Ohio; and 6 hds. Tenn.—Total 31 hds.

Flour—best white wheat family, \$6.75 a 7.25; super Howard-street, — a —; city mills, — a —; city mills extra — a —; Corn Meal bbl. 3.50; — a —. GRAIN, best red wheat, 1.10 a 1.14; white, do 1.16 a 1.20; — Corn, white, 65 a —, yellow, 65 a —; Rye, 72 a 73; — OATS, 40 a 41; — BEANS, 75 a 80 — PEAS, 65 a 70; — CLOVER-SEED — a —. TIMOTHY, — a —. Orchard Grass 2.00 a 2.25.—Tall Meadow Oat Grass 2.00 a 2.50.—Herd's, 75 a 87 1/2.—Lucerne — a 87 1/2 lb.—BARLEY,—FLAXSEED 1.50 a 1.62.—COTTON, Va. 10 a 12.—LOU. 12 a 13.—Alab. 10 a 11 1/2.—Tenn. 10 a 12; N. Car. 10 a 12; Upland 10 a 12.—WHISKY, hds. 1st p. 25 1/2 a — in bbls. 29 1/2 a 30.—Wool, Washed, Prime or Saxony Fleeced 45 a 50; American Full Blood, 35 a 42; three quarters do. 33 a 38; half do. 30 a 35; quarter do. 28 a 30; common 25 a 28. Unwashed, Prime or Saxony Fleeced, 25 a 30; American Full Blood, 22 a 25; three quarters do. 20 a 22; half do. 18 a 20; quarter do. 16 a 18; common, 16 a 18. HEMP, Russia, 10, \$180 a 210; country, 3, 45 a 80; 6 a 7 c.—water-rotted, 7 a 8 c.—Feathers, 8 a 8 1/2; Flaxter Paris, per ton, 5.50 a — ground, 1.50 a — bbl. Iron, gray pig for foundries per ton \$3.00 a —, high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 75.00 a 85.00.—Prime Beef on the hoof, 5.50 a 6.25.—Oak wood, 4.00 a 5.00; Hickory, 5.50 a 6.00; Pine, 2.25.

CONTENTS OF THIS NUMBER.

Editorial; Letters of Character—Robert Sinclair on the Culture of Asparagus—Culture of Silk in the United States.—On the Grasses; Varieties best adapted to our use; Times and Manner of Seeding, &c.—Flax and Chess.—On the use of Fallow Crops; Sowing Wheat after Oats, &c.—Essay on the Culture of Grapes and Making Wine, containing every direction necessary to a perfect understanding of the business, as deduced from the practical experience of the author, by N. Hermon, concluded.—On the Culture of Rhubarb, by Juo. D. Legare, Editor of the Southern Agriculturist, continued.—Importance of Selecting the best breeds of Live Stock, particularly of Swine—Culture of Bees; Bee-moth—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

GENERAL

Agricultural and Horticultural Establishment: COMPRISING, A Seed and Implement Store, a General Agricultural Agency, and the Office of the AMERICAN FARMER, at No. 16 South Calvert street, Baltimore: in connexion with a Stock and Experimental Farm, Garden and Nursery in the vicinity.

—An extra number of the Farmer, containing a prospectus of the "Establishment" and a "Catalogue of Seeds," &c. kept for sale, shall be sent GRATIS to any person who shall by mail or otherwise furnish his address for that purpose.

AGENTS FOR THE FARMER.—All postmasters are requested to act as agents for the Farmer, and to require a strict compliance by subscribers with the terms, especially the third item. They are authorised to retain one dollar for each new subscriber, and ten per cent. on all other collections. The list of special agents is published in the Farmer every third week. (Terms next week.)

DIRECTION OF LETTERS.—Address all BUSINESS letters concerning the Farmer, the store, or the agency, to the proprietor, I. I. Hitchcock, Baltimore, Md.

Printed by J. D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, FEBRUARY 22, 1833.

PRESERVED YEAST.—Every good housewife will thank us for the following method of making yeast—at least after she has tried it; for it is one of the most convenient articles used in family economy. We give the method as it is practised in the Editor's family, and assure our good housewives that it is superior to any other yeast, in every particular, and has the great advantage over all other kinds, of keeping perfectly good for months and years.

Take a good handful of fresh hops and boil them in one quart of water till they settle to the bottom of the kettle; strain the liquor after cooling, upon a pint of good wheat flour in a stone jar, and stir it well, breaking all the lumps, and making a thin batter. When the hand can be borne in it without pain, put in half a pint of common baker's yeast, or any other yeast that is fresh and good, except brewers' yeast, which will not do, cover the jar and set it away to rise. In eight or ten hours this will rise and become such as is used by the city bakers. It should be allowed to rise as high in the jar as it will go, (for this purpose the jar should at first be only half full,) and begin to fall; then take good corn meal and stir into it, till it becomes quite stiff. This dough must now be rolled out on a table into a cake a quarter of an inch thick, cut into pieces two or three inches square, and placed on boards in a dry airy room, and turned over once a day till the cakes become thoroughly dried, when they must be put away in a perfectly dry place—in a common linen bag is the best. When wanted for use, one of the cakes is to be taken for each loaf of a moderate size intended to be made, put into a bowl or other vessel, and a gill of warm water for each cake is to be poured on it; as soon as it dissolves, which will be in half an hour or so, stir it up, and put it into the flour in the usual way of using yeast.

Now let us tell them how to make good wheat bread. Always measure your water and salt, that is a rule not to be omitted with impunity. A pint of water will make a moderate sized loaf. Say you want to make four loaves. In cold weather take a quart of water as warm as you can bear your hand in, and make a stiff batter over night, say at bed time, put in the yeast, and let it stand to rise till morning, when it will have risen and began to sink in the middle, if not, keep it warm till it does. This is called "setting sponge." In the morning, take another quart of warm water, put into it a small handful of fine salt, pour it into the "sponge," and make the dough, working it well till it becomes perfectly fine and silky. Let the dough rise till it becomes quite light. Now begin to heat your oven; mold the dough into loaves immediately, and let them stand till your oven is hot, when you will put them in and bake them one hour. In warm weather the water should be milk warm for the "sponge," and the "chill" merely taken off for the dough. Bread made in this way will be as light as any baker's bread, and yet preserve all the sweetness of home made bread.

To make fine rusk, take some of the dough made as above for bread, after you have made your loaves; put in some butter and sugar, with such spices as you prefer; work it well, set it aside to rise, when very light mold the rusk, put them in pans, set them aside to rise again, and when light bake them. No better rusk than these were ever made by the bakers. Milk is not good for any kind of bread or rusk, for the little butter that is in it is more easily supplied by working butter itself into the dough, and then you have not the cheesy matter, which injures bread. A small lump of butter or sweet lard worked into the dough is a great improver of bread.

To make apple dumplings, take some of the well

raised dough prepared for bread, work in some butter or lard, and put in the apples in the usual way. Dumplings made thus are as wholesome as bread, being very light, and free from clamminess, and of course easily digested; they are much better than when made in the common way. Pie crust made in the same way, but rolled very thin, is far better and more wholesome than the common kind.

REMARKS ON THE WARRENTON GRAPEVINE, BY THOMAS McCALL.

Retreat, Laurens Co. Georgia, }
Feb. 8, 1833. }

Mr. SMITH:

I procured cuttings of the Warrenton grapevine from my neighbor, who brought them from Warren county, Georgia, and planted them in the spring of 1816. The place it was brought from induced a belief that it had been one of the vines planted by Henry Hunt, from which he made wine, prior to the Revolution. But my neighbor has since informed me that cuttings of that vine were brought from the lower country by a traveller who gave some cuttings to a Mr. Neal, and by him planted near some oak trees where they now grow; and from thence they have been planted in different places. The Hon. J. Milledge procured cuttings of this vine, and planted them at his residence near Augusta, calling it a native variety, and hence the opinion in that neighborhood of its being indigenous to our soil.

In 1823 I made wine from this grape, which was of superior flavor; and in Feb. 1824 (published 1823 by mistake) I communicated my experiments to Major Adlum, whose communication was published in the Am. Far. vol. vi. No. 47. A subsequent notice of this vine and others was made in Feb. 1825 to the editors of the Southern Recorder, Milledgeville, and republished in American Farmer, vol. vii. No. 9, 10, 11.

Some years before the late war with England, grapevines were imported from Madeira to Savannah in the Louisa Cecelia, some of which were procured by Capt. Abrahams and planted in his garden at Thunderbolt. In 1823 I procured cuttings from Capt. Abrahams' vines; and at the same time cuttings from several vines in Mr. Young's collection of foreign plants, among which, one was called var blue grape (variety blue I suppose,) another a brown grape: when the vines grew, I could not distinguish the wood and foliage from the Warrenton; and when they produced grapes, I thought that the bunches of Abrahams' Madeira grape were a little different from the Warrenton, in shape of the bunch and the color of the grapes. In autumn 1826, I procured vines from Mr. Wm. Prince, one was called violet cluster Madeira, in 1828 shewed the fruit which was oval shape, and dark blue color; and in order to distinguish Abrahams' Madeira from Prince's I called the former round violet Madeira. But Abrahams' Madeira, Young's var blue and brown grapes, and the Warrenton are the same.

A gentleman, near Darien, imported vines from Madeira which had lost the labels and were planted promiscuously—he sent me some roots and cuttings labelled mixed Madeiras—amongst them I recognise the Warrenton and Meunier or Miller's grape.

J. B. Maengen, a vine dresser from Meurthe, France, brought to me cuttings of the black Spanish, and of the black Lisbon vines—they are the Warrenton. Dr. Bowen brought me a root and cuttings of vines as Chasselas royal rouge; the rooted vine is the Warrenton, and the cuttings have produced vines which appear to be natives, but have not borne fruit yet. I have the Warrenton vine by other names.

Mr. Heribmont at Columbia, South Carolina, made wine from a vine, which in that neighborhood was called Madeira—this was in 1826—that vine he has ascertained to be the same as Warrenton. Mr. Waring planted a vineyard near Columbia nearly forty years ago, and made wine; perhaps Mr. Heribmont's vine may have been from that vineyard.

I brought the Warrenton vine into notice as a valuable one for wine, and it is one of the best I know of: from all the information I possess, and is mentioned above, I believe of foreign origin.

(For the American Farmer.)

EXPERIMENTS IN CALORIC.

12 mo. 31, 1832.

It is well known that most bodies part with caloric in two distinct and separate modes, namely: 1, By the absorption of heat by colder substances which come in contact, and 2, By radiation, by which the body becomes colder than the surrounding medium.

In the last number of *Silliman's Journal* there is an account of "New Experiments in Caloric by M. M. Nobili and Meloni, performed by means of the Thermo-multiplier—which is so delicate an indicator of temperature, as to be sensibly affected by the natural heat of a person placed at the distance of twenty-five or thirty feet." From the experiments it appears that while heat radiates through glass, rock crystal, selenite, mica, oil, alcohol, and nitric acid, with more or less facility according to the degree of their transparency,—water entirely intercepts the caloric rays. In the abridgment of the article by C. U. Shepard, it is remarked, that "the obstacle which [water] opposes to them is so insurmountable that it is in vain for us to reduce the thickness of the stratum to the least possible film; or even to heat the iron ball to redness, and to pass it slowly over the Thermo-multiplier: the index always preserves the most perfect immobility."

"After the foregoing experiments, it could not be imagined that this singular property of water should be owing to its fluidity; since the alcohol, the oil, and the nitric acid, all partake of the same physical constitution, while they conduct in a manner totally different. We had a right, therefore, to attribute the effect to the chemical constitution of water. Nevertheless we were disposed to resolve the question directly, by performing the experiment upon solid water. With this intent, we took two thin layers of very transparent ice; we applied them to the appendices of the Thermo-multiplier, which in the present instance, were two equal cylinders. By this means, the radiation towards the ice being the same on both sides the needle assumed the place of zero on the scale. We then presented the heated ball at a little distance from the upper layer of ice: the needle experienced no alteration in its position."

This is a wonderful provision of nature. Water, either liquid or solid, only imparts its caloric to colder substances that come in contact, and radiates it not, like other bodies, through the atmosphere. Hence streams, and pools, and lakes, remain longer unfrozen; and hence the freshness, with which many plants comparatively tender, come from under the snow after a long and severe winter. D. T.

FOREIGN MARKETS.

LONDON MARKET, Jan. 11.

The Wool Trade.—Yesterday afternoon the first of a series of public sales of colonial and foreign wools commenced. The quantity offered yesterday was 554 bales; of which 310 were Australian and Van Diemen's Land wool of recent importation. The attendance of buyers was numerous from Yorkshire, and the demand for good combing qualities very active. The wools from our colonies were in general good condition; the finest Australian offered fetched from 2s. to 4d. and inferior sorts from 1s. to 1s. 1d. per lb. Van Diemen's Land wools for the best fleeces fetched from 1s. 11d. to 2s. 1d. and inferior samples from 1s. to 1s. 11d. per lb. The German wools offered sold at 1s. to 1s. 11d. Good Cape at 11d. to 1s. 4d. and inferior from 6d. to 1s. per lb. and Russia at 9d. per lb. The sales were continued this afternoon, and the demand continues brisk. The colonial wools are fetching full prices.

AGRICULTURE.

(From the New England Farmer.)

REMARKS ON AGRICULTURE.

DUNG. There are several kinds of dung, as there are of soils on which to lay it.

ASHES. Best for low, mossy lands, spread evenly on the ground. A few bushels, sowed just before a rain, a good top dressing for an acre—fifteen bushels a full dressing—it will be seen for several years—peat ashes best—fifteen bushels to an acre. **DON-DUNG** for melons—**COW-DUNG** for a warm, sandy soil. **HOGS-DUNG** for flax, corn and potatoes, and for all kinds of vines. **HORSES-DUNG** for a low, wet soil. **HUMAN-DUNG** mixed with a great quantity of soil, for cold, sour land, and for recruiting old pear-trees. **SHEEP and FOWLS-DUNG**, for a wet soil. **SLAUGHTERHOUSE-DUNG** is very excellent. And beside these several kinds of dung, there are other manures, such as **LIME**, for a cold stiff clay soil, 120 bushels to an acre—it destroys moss, mixed with green sward, in layers, the composition will be fit for use in six months in summer. **URINE or STALE** is also excellent manure, and when saved, of as much value nearly, as the dung itself of the stock. And to save it in summer, as soon as your barn-yard is cleared out, in the spring, take the first leisure hour, and take care to find such an hour, to cart in a large quantity of loam, mud, clay, rubbish, broken peat or even sand, which will absorb the urine, and being mixed with the dung, make a most excellent manure. In winter, a great part of the stale may be saved, if you have a tight floor, by giving the cattle a plenty of litter: every night a fresh layer of chaff, flax-dressings, or whatever the barn affords. Mud from ponds, in the opinion of some farmers, is equal to good dung for Indian-corn, planted on a dry gravelly soil: **SEA-MUD** also is very good; but all kinds of mud are better when laid in the barn-yard and trodden into the dung and stale of the cattle. They should be shovelled into heaps and lay a few days before they are carried into the fields for use. Some farmers have long and narrow cow-yards by the sides of roads, or elsewhere, in which they yard their cattle every night; and every two or three days they plough them deep. This mixture of soil, dung and stale, is said to be equal to any manure which is made. It must be very good for grass land, spread as soon as the crop is moved off.

EWES. Breeders should have long and fine wool. From October first, to November twentieth keep the males from them—feed them well for some days before yearning. Let them have good feed from their first going to pasture, till the middle of July—this will make fat lambs, and the ewes themselves will be fit for market.

FLAX, a most useful and profitable crop to the farmer—does best in moist land—at nine pence per pound, one acre will gain six pounds clear profit. After the ground is well manured with old and rotten cow-dung, or with the contents of the hogsty, plough and mix the soil well—it cannot be too much pulverized, and then, in early season, which will give the best coat to the flax, sow from seven to eight pecks of seed on an acre—fresh and new seed every year, and from a good distance, the crop will be the better. Pull it when the leaves are fallen from the stalk, and when they begin to have a bright yellow color, and the bolls are just beginning to have a brownish cast. If you water rot it, pull it when the blossoms are generally fallen. If you dew rot it, when it is done sufficiently, the coat will separate from the stalk, at the slender branching parts, near the top ends.

FOWLS should be fed when weaned with sweet hay, oats and wheat bran. For the first winter allow one sixteen bushels of oats; afterwards he will do with good hay. A late foal should not be weaned before March, and have oats all winter. Within one month after the foal is dropped, it receives its shape, &c.

which it will ever after retain—you may then see your future horse in miniature.

FOWL-MEADOW GRASS does best on low lands, swamps, &c.—keeps green a long time—bears a great burden—is excellent fodder especially for horses, and may be mowed, from last of July, to first of October.

FODDERING should not take place till really necessary; and then only in mornings.—The worst fodder should be given out in the coldest weather. Never lay so much before your cattle as will serve to fill them—fodder twice in the morning and twice in the evening. The leavings of horned cattle may be laid before horses, and the leavings of horses before those who divide the hoof; they will eat after each other. If any thing be left in the mangers of the cattle, carry it out into the open air, and spread it on clean snow. Young and hardy stock will winter well on coarse meadow hay and straw. Every farm-yard should have a long shed, and a rack under it, in which to fodder in a clean and profitable manner—very necessary for sheep.

GOOSE, more profitable than a dung-hill fowl. Pluck your goose but once in a year, and at moulting time, or when they shed their quills.

GRAZING. Kill grass fed heaves by the first of November, for, after that the grass soon loses so much of its virtue, that it will not fatten cattle at all—they will fall away.—Vales for tillage, hill for pasture.

(From the Southern Agriculturist.)
ON THE CULTURE OF CORN WITH THE PLOUGH, UN-
ASSISTED BY THE HOE.

Rockey-Grove, Abbeville, December 10, 1832.

Dear Sir,—Up to the period at which I emigrated from the lower country to this district, the plough was but little used as an agricultural implement in that section of country with which I was acquainted, the chief (I might say the whole) reliance being on the hand hoe; whereas, in the upper country, crops are made principally with the plough. Not being acquainted with what alterations may have taken place in the use of agricultural implements since that period in the lower country, I have thought that a statement of my mode of cultivating Indian corn with the plough, unassisted by the hoe, might not be unacceptable to some of your readers. As far as circumstances will permit, I observe the following rotation in the culture of my crops. First year small grain, second year cotton, and third year Indian corn.

As sweet potatoes are not extensively cultivated among us, they form no part of a rotatory crop. That part of my corn crop which succeeds cotton, is cultivated entirely with the plough, without the use of the hoe; but if I am compelled to plant any part of my corn after small grain, the hoe in such a case, I find indispensable, as the crop which succeeds small grain will be infested with weeds, and some of them will escape the plough, especially such as have sprung up near the corn hills. For this reason, as well as from the circumstance that the cut-worm is destructive to the young corn when that crop follows small grain, I prefer planting cotton after small grain and corn after it.

In preparing for a corn crop, I break up the land with mold-board ploughs, where they can be used, as deeply, as thoroughly, and as early in the winter as possible, that the frosts may mellow the ground; for if this operation is not well done, it is fruitless to expect a good crop, unless the seasons are indeed very favorable. A few days before I commence planting, I lay off my corn-fields in furrows, at the usual distances, with a gofer or bull-tongue plough, but do not, as in common practice, ridge thereon. Being now ready for planting, I cross these furrows with others, being very careful to make them cross each other at right angles; to ensure which, I personally superintend and direct the laying off of the first cross furrow in each field or division, as this furrow regulates the rest, and as I have found by experience that if this is left to negroes they will (even the most careful of

them) frequently make a wrong start, and consequently lay off the whole field catcornered, (a very common and expressive word, though not to be found in the dictionary,) rendering it incapable of being worked to advantage, and causing mortification and vexation to the agriculturist as often as he views it. The droppers follow the ploughs (as they lay off these cross-furrows) and drop the corn, which is immediately covered by running a furrow on each side with a narrow gofer or bull-tongue plough, made out of wagon tire iron, run at such a distance from the corn, as that whilst they cover the corn they do not form a sharp ridge over it, or cover it too deeply. I thus ridge my ground sufficiently for all useful purposes, and cover the corn by the same operation. In this way all the labor of covering the corn with the hoe is saved: and I hesitate not to affirm, from the result of repeated experiments, that corn so covered will come up with more regularity, and require less replanting in a given number of years than that which is covered with the hoe.

I will offer a few reasons why this result might be expected. First, a careless hand will often in covering with the hoe displace the corn, the bad consequences of which are so evident where the crop is to be worked with the plough that they need not be pointed out. Secondly, some hills will be covered too deeply, when from the coldness of the earth in the early part of the year, much of it will rot, especially if the spring should be a late and cold one; and thirdly, because, give what orders you may, the laborers when they cover the corn will generally push or draw the hoe over the hill with a view to level it; or from habit, which by somewhat packing the soil, and filling the little crevices with fine earth, will cause it to bake or form a hard crust over the corn should a beating rain fall before it comes up, through which crust much of the corn will not penetrate. This, at least, will certainly be the case in stiff soils, and such as are disposed to run together after a rain and bake. It will, also, sometimes happen, be as careful as you may, where hogs are raised as a part of the farm stock, that the pigs or small shoats will find some hole to get in at, and when the field is ridged up before planting, and the corn covered with the hoe, the pigs will root up hill after hill with astonishing expedition, being guided to the spot from the appearance of the ground as well as by their noses, and may do considerable mischief before they are discovered; whilst by ridging and covering at one and the same operation, they are put completely at fault as regards the assistance of their eyes, and guided alone by their noses they will be discovered before they do much mischief.

One remark about dropping the corn. In doing this, I put my most intelligent and careful hands to it, differing from some who trust this to mere boys and girls, and for this simple reason, that the greater the exactness is with which the corn is dropped in its proper place, the easier and better can the crop be worked by the plough. As soon as possible after the corn is well up, I give it its first working by running a furrow on each side of it with a gofer plough of the usual size, and plough the middles with a mold-board plough, assigning to my best ploughmen, and most careful hands the duty of running the furrows next the corn, that the young corn may not be carelessly covered and yet ploughed as close as possible. The next ploughing is done with mold-board ploughs, as the corn is now sufficiently high to enable a careful hand to throw the soil up to it and cover the young grass about it. The more indifferent ploughmen plough the middles. When I plough the corn the third time I have it ploughed as close and as much soil thrown up to it as possible, and the middles or alleys again well ploughed, and if this ploughing is done well with proper implements, any grass about the corn is now destroyed, and the corn well molded or hilled with earth. The fourth or last ploughing I give when the corn is about or has commenced tasseling. I now neither plough near the corn nor deep,

my object being to destroy young grass, loosen and move the soil on top. A plough called the scraper is, I think, the best for this purpose. This is the mode of culture I pursue in ordinary or wet seasons, but if at the time the corn should receive its third working, it is suffering from a lung and severe drought, I do not think it expedient to plough the ground deeply or very close to the corn, but to use the scraper; but in each case a hill should then be put to the corn with the hoe, or this may be done at the last working.

The soil I cultivate is a close soil, requiring to be kept well stirred, as after every rain it runs more or less together, according as the rain is more or less hard and beating. If I plant corn in very cloddy ground, I then ridge before I plant, and think it advisable to cover with the hoe instead of the plough.

Respectfully, THOMAS PARKER.

(From the Southern Agriculturist.)

ACCOUNT OF SEVERAL PREMIUM CROPS OF CORN AND POTATOES, WITH OBSERVATIONS.

Dear Sir,—I would have sooner sent you the account of the quantity of corn produced upon an acre of ground, for which prizes have been given by the St. Helena Island Agricultural Society for several years past, which being desirous of sending also the mode of culture (which I have been unable to obtain) has caused the delay. These papers went into the hands of a committee, and cannot be found. I have, therefore, taken the following from the minutes of the society of which I am secretary.

On the 2d of December, 1829, Mr. Benjamin Chaplin, Jr. obtained the premium, he having produced to the acre 531 bushels of flint corn. On the 2d of December, 1830, M. Chaplain again obtained the premium, having produced that year 73 bushels to the acre. Mr. Joseph Hazel also stated that he had produced to the acre 693 bushels.

Mr. Alexander Cocheril, the same year obtained the premium for root potatoes, having produced 907 lbs. upon one task, (50 lbs. to the bushel) and of slip potatoes, 13,255 lbs. upon the half of an acre. Mr. William Pope, Jr. stated that he had produced 10,100 lbs. upon the same space of ground. The following year the Society increased the quantity of corn to 75 bushels, in order to obtain the premium: no one to my knowledge has yet certified that he has produced that quantity.

The method, these gentlemen pursued, as far as I can recollect, was by selecting good land and manuring highly with compost and cotton seed, and working the land very often. From the result of these experiments I have drawn this conclusion, that a small quantity of land may be attended in this manner with profit, but in an extensive field it would be too laborious and expensive; and I must also add, that the great quantity of manure used in these cases would not be advantageous during a dry and warm season. Our rainy seasons generally commence about the last of June or first of July, sometimes a little later; and our most judicious planters generally divide the times of planting their corn. The first is planted in March, the last in April. Should the drought be protracted to a late period, the leaves dry up or fire as they here term it, the silk perishes, the farina is scattered about to no purpose, and we have a cob with scarcely a kernel of corn upon it. It is true, that cotton-seed is not only an auxiliary as a manure, but assists very much in keeping the plant in a green and flourishing state, yet the quantity used is so great that it becomes a question whether after all it could be employed to any extent. I consider the flint corn grown upon our islands and the neighboring mainland, as the best which I ever saw produced in any part of the United States. From the month of November until June it sells with us, *communibus annis*, for fifty cents. After that period, until the new crop is gathered in, from seventy-five cents to one dollar. The price of corn must depend upon the quantity produced, not only

here but further north, for I am sorry to say, we are frequently under the necessity of purchasing from abroad. During the time that cotton sold at high prices, our planters paid but little attention to the provision crop, because they could easily give a dollar per bushel for corn, and yet find it to their advantage to cultivate cotton. But with them, (with few exceptions,) this cotton age is passed, and it is a desideratum with most that provisions, (at least for the use of the plantation,) should be produced. It was with this spirit our Society were induced to offer these premiums; I conceive they have gained nothing more by it than a knowledge of how much can be raised to one acre. The common product of our island one year with another, is from five to thirty bushels of corn to the acre; but twenty bushels to the acre is considered a very good crop. When I make this difference in the product per acre, I mean different qualities of land. It would of course follow that it would be of more advantage to the planter to learn how to make his whole field produce twenty or thirty bushels per acre, than to have one acre produce seventy-five bushels, and the rest only five or ten.

Since I am writing, I will mention a circumstance which had somewhat escaped my memory until looking over the minutes of the Society, I beheld it there recorded. In the month of June, 1828, one of the members of the Society brought to the meeting a cotton stalk in full blossom. This stalk, among a number of others, he had out from the field and stuck down in a bed of peas. They had all taken root and were at that time in full bearing of leaves and blossoms. I left the island immediately afterwards, and did not return for several months, and have never been able to learn whether the fruit came to perfection. The winter previous was so mild that the cotton with us was killed in but few places; but I was not before aware that a cutting from the cotton stalk would take root in this manner, and this one was at least five feet in length.

I am, with much respect, your obdt servt.

CHARLES W. CAPERS.

(From the Genesee Farmer.)

SEED WHEAT, CHESS, &c.

MR. EDITOR: N. Almond, Jan. 2, 1833.

I am a farmer on a small scale, but as I have had a little experience in raising wheat, I will state what little I have seen and know about seed wheat and chess.

In the fall of 1824, I sowed a field of wheat, one bushel of which was as motley a mixture of seed as was ever sown for wheat. There was four or five varieties of wheat, two varieties of rye, together with chess, cockle, &c. &c. but I could get no other. The next season I discovered now and then a head of beautiful white berried, red chaff bald wheat among it. Before I cut the wheat, I went through the one bushel's sowing, and opening the chaff with my fingers, to be sure of the kind, in about two days, I picked out and shelled in my hands six quarts and a pint of that variety, which I sowed on a piece of new ground, in the centre of my field of wheat, and let a strip of land six feet wide around it vacant, so as to be sure to not mix any other kind with it. The next season I harvested a little short of two bushels of the most beautiful wheat that I ever saw from it. I sowed the whole of this on clean new ground, the produce of which was thirty bushels of wheat—not chess and wheat—but wheat, as good as ever was raised, without a kernel of chess, rye, cockle, or other "foul stuff." My neighbors who, when I was "fooling away my time" in picking out the seed, laughed me to scorn, now began to want a little of it, if not more than a half bushel, or a peck, "just so that they could get into the seed," and were willing to pay me almost any price for it. The next fall I sowed five acres of new land with the same seed, in the whole of which there was not a single kernel of chess, cockle, or other foul seed. I sold about eighty bushels of seed this fall,

(1827,) for seventy-five cents per bushel, when the market price of ordinary wheat was but fifty cents.

The pigeons were very plenty in the fall of 1827, and I, having procured a net and prepared a "bed" in my wheat stubble, which I baited with some of my clean wheat, commenced catching them. One day, after baiting my bed, I left it; the next morning I was surprised to find the wheat all gone, and considerable chess left in its stead. I concluded that the pigeons, after filling their crops in some neighboring field with chess, had found my wheat and made an exchange.

From these facts I am satisfied, that if farmers will sow wheat on clean ground, they may expect to reap wheat, unless pigeons, or some other animals, exchange seed with them. W. H.

CULTIVATION OF THE POPPY.

There are many practitioners of medicine, residing in country situations, who might very conveniently raise all the opium necessary in their practice, and for sale. The *papaver somniferum* has yielded excellent opium to many of our citizens, on a small scale, and during the present session of the Medical College of Ohio, a student presented me with a small portion of this article raised by his own hands, and of superior quality. But it has been raised largely, as may be seen by reference to the American Journals, and especially the Medical Museum for 1810.

The plant thrives in the southern states, and any where in the latitude of Philadelphia. The state of Ohio, therefore, and all the south western states will answer for the cultivation of the poppy. The seed may be sown as soon as the ground can be prepared, and the better the soil the larger the crop. They may be planted pretty much as corn is, only that the rows need not be so far apart, and the plants may be closer together in the rows. At first they require a little hilling, and if the season be dry, they should be watered, until they gain the height of ten inches, after which they may be left to themselves.

A day or two after they have shed the petals, four incisions are to be made in each poppy head longitudinally, with a sharp knife, and at equal distances apart. These incisions should be made from 6 to 9 o'clock, A. M. and at noon, the juices will be found to have exuded, and to be collected in tears, from half an inch to an inch in length. The same number and kind of incisions may be made at 3 o'clock, P. M. and at 6; the same sort of tears will be seen, as in the morning. The color of the juice is from a reddish brown to an almost black color, by the action of the air.

In this way, a single head will yield from 15 to 40 grains of pure opium, according to the testimony of Dr. Anthony. Will not our medical brethren avail themselves of so simple a method of procuring their own opium, in an unadulterated form.

[West. Med. Gazette.]

(From the Genesee Farmer.)

POTATOES.

THE DIFFERENCE BETWEEN RAISING THEM TO SELL OR HAVING TO BUY.

Hume, Allargany Co. Dec. 4, 1832.

A few years since, as I was measuring some potatoes to my neighbor W. he put the following question to me: How does it happen that you always have potatoes to sell and I always have to buy? As to that matter, I replied, I do not know; but I can tell how it is with some men. How? In the first place they have to buy their potatoes, and thinking they will be economical, and will not buy more than they can help, they pick out all that will do to eat, and save the rest to plant. In the spring of the year, they calculate that any ground will do for potatoes; of course the poorest part of the lot is selected for that purpose. They say potatoes will do to plant any time; they are left until all other crops are put into the ground. Then the potato ground is probably

ploughed, as potatoes will grow any how; the small potatoes are planted; pretended to be hoed once, and peradventure not at all. In the fall, it is the last work they do, before the ground shuts up, to dig their potatoes. Some of them are spoiled by the frost, and the others are injured before dug. They are carried to the cellar, or put into a heap to bury, what few they have, for depend upon it they have a small crop, and if they are secured so that the frost does not effect them, they rot, and in the spring they want to buy more potatoes, saying they planted enough, but they did not do well.

That is the very way that I have worked it, he replied. I could not have given a better description myself. Now tell me how you do to raise potatoes, and always have them to sell.

Well, sir, in the first place, I select the best piece of land I intend for a spring crop, or at least as good as any for potatoes. I get my land in good order as early as the ground will admit; if I assort my potatoes I plant the largest; hoe them well and in season, and always calculate to dig them before I husk my corn. I get my potatoes dug before the heavy rains come in the fall; my potatoes are dry when buried, and in the spring I generally have potatoes to sell.

What time in the moon do you plant, says he? I don't plant in the moon, I replied: I say, I select good ground—get my ground in good order, and plant in good season, and don't regard the moon at all. But, says he, I always thought I must plant in the full moon. Well, you always have to buy potatoes you say, and may be that is the cause. Well, says he, I have as good land as you, and I will try and see if I can't raise potatoes to sell as well as you. The next season he told me he had potatoes to sell, so I lost one good customer. L. C.

CARROTS.—This valuable root, so highly esteemed, and so extensively and profitably cultivated in England and some parts of our own country, is almost wholly neglected here. The carrot is found on very few tables in this vicinity, though an excellent vegetable, a fine ingredient in soups, and an elegant garnish for various dishes. It is also valuable as a food for domestic animals, all varieties of which eat it freely. Containing a large proportion of *saccharine matter*, it is highly nutritious. Horses, cows, and other animals, thrive well upon it, and kept upon this food chiefly, instead of grain, they are certainly much less liable to various diseases, than when fed on grain only. Its tendency is to keep the system in a regular and healthful condition, being neither of a *heating* nor *binding* nature, but the reverse. My own experience in the use of this root as food for horses, inclines me strongly to the opinion, that bushel for bushel, it will go further than oats or Indian corn.

Now if only the *half* of this be true, why should it not be brought into more general cultivation and use? Its culture may be about the same as corn in drills, and will require very little more labor than that article, while at the same time *five hundred bushels* to the acre, is no more above an average crop of carrots, than *sixty bushels* to the acre is of corn. And eight hundred bushels have been grown on an acre, where the ground was very good, and the culture of the best. I myself grew, the last season, *twenty bushels* of very fine carrots off of about the *fiftieth* part of an acre! This sort of yield however, is not to be considered a common crop. But with the prospect of a far less productive crop, it would be worth while for farmers to make the experiment, if it be but upon a small scale. A hundred bushels of carrots would help your corn-crib and oats granary much. And besides, if your horses should, like many other folks, be so fearful of innovations upon established usages, as to refuse to eat them, why in that case you know, you have only to do as Franklin did with his horse when he refused to eat *oysters*—he called him a "saucy fellow," and ate them himself. [Farmers' Chronicle.]

HORTICULTURE.

VINES

Best adapted to Culture, &c. in the Latitude of Baltimore, after ten years Experience and Observation, by ROBERT SINCLAIR.

February 20, 1833.

In 1823 I planted upwards of two acres in a vineyard, with plants and cuttings of the Catawba, Bland's Madeira, Isabella, Constantia, Miller's Burgundy, White Sweet Water, and many other kinds, which was cultivated with care until 1827, when I sold the farm it was on; since which it has been much neglected until last season; the productiveness and quality of the Catawba grape, and one or two others, encouraged the present proprietor to more care and attention. In the year 1828, I purchased the farm I at present occupy, for nursery, and other purposes, on which I planted a small vineyard, to which I am annually making additions, as plants or cuttings are left on hand, in which I have tried the various kinds of those delicate choice grapes called the Chasselas, Frontignac, Muscats, &c. also Black Prince, White Tokay, and many other European grapes, mostly in high repute in England, all these latter kinds are regularly killed to the ground every winter by frost, if left uncovered in field culture, yet they stand well in yards in the city. From the experience and observation I have had, and made on the grape in my own, and other vineyards, from my commencement to the present time, I thought it might be of some service to persons now disposed to cultivate the grape with respect to a proper selection of kinds, to suit their purposes and location. In field culture we must adopt such kinds of grapes as will stand our winters without the wood being injured by frost, which would render the vine fruitless, unless it is covered with something (earth is best) during the frosty season, which may be done with a few choice kinds, but would be too costly in a large vineyard, especially when the vines are grown to a large size.

I therefore would recommend the better kinds of native grapes of this country, unless it would be in paved yards or where it would be convenient to cover the vines so as to protect them from frost; even those brought from our southern states do not all stand our winters, but there may probably be grapes obtained from the northern sections of Germany that will suit our climate well. But the grapes of our own country are good enough, if well ripened, for both wine and table use, which also appears to have been the opinion of William Penn, governor of Pennsylvania, in the year 1683, when writing home a description of the fruits of the province, in speaking of grapes observes, "It seems most reasonable to believe, that not only a thing growth best where it naturally grows, but will hardly be equalled by any other species of the same kind that doth not grow therein." In order to have our native grapes well ripened, they ought to be trained on high trellises out of reach; some kinds will hang on a long time after they are ripe, if left there, others look so rich and handsome before they are ripe, as to tempt even the proprietor to pull them before they are near perfect, unless they are kept under lock and key. As far as my experience goes I find the following kinds give the least trouble and afford large and certain crops, and if well ripened, will make good wine, and will be delicious for table use.—No. 1. Catawba, No. 2. Bland's Madeira, No. 3. Isabella, No. 4. Constantia, Schuylkill Muscadell, or Cape of Good Hope grape, which are all three nearly or quite the same.

The Catawba is very luxuriant in its growth, and unusually productive of fine, large, juicy, oval grapes, of a red color, and frequently covered with a purplish bloom, ripen the latter end of August, and will hang on until the first of November, when they are a very pleasant table grape, and make decidedly the best wine I have tasted of American manufacture. (N. Herbemont's wine I have not tasted for three years.)

The Bland's Madeira is also a flourishing productive grape, berries and bunches of medium size, of reddish color, and round shape, very sweet and rich when well ripened, but requires a warmer exposure than the Catawba, as they ripen about the twelfth of September, is recommended for making good wine. The Isabella is an excellent table grape, of large size, of a blue color, and oval shape, is very productive, and is said by William Prince to make good wine, who has had it in possession a long time, and has had the best opportunity of judging—it ripens rather irregularly. Constantia is a strong growing and very productive grape, berries and bunches large, fruit of a round shape and blue color, flavor rough until very ripe, hangs on late, when I understand they make an excellent wine.

This communication was designed mostly to inform my friends and customers of the kinds of grape most worthy of cultivation, and not intended to go into directions for culture, pruning, &c. as every person who plants only a few vines, ought to possess a small volume on the subject to refer to, selected from the many excellent works now extant on the subject. The one proposed to be published by that experienced scientific cultivator, N. Herbemont, will no doubt contain much practical information, suited to our climate, if I may judge from what he has already written.

Nicholas Brewer, Jr. Attorney at Law, of Annapolis, is doing much towards the improvement of horticulture by planting many useful plants, the most important is about five acres of grape vines, from about one acre of which (the others being small, are not bearing much) he informed me he had sent about four hundred dollars worth of grapes to Baltimore market in the fall of 1831—I saw his crop last fall when hanging ripe on the vines, estimated by the owner to amount to upwards of four hundred bushels. To a lover of good fruits and rural affairs, this was a sight truly pleasing; and would be much more so to a person who has only heard of the beauty and richness of the grapes in France and Italy, but has not seen them in either, or here. The principal amount of sales was made from the Catawba grape, and the balance was mostly from the Isabella and Bland, here my favorable opinion of the Catawba grape was confirmed, by cash received for it, as a table grape. Col. John Adlum, near Georgetown, D. C. who gave the first general impulse to the raising of the grape and making wine, in at least the Atlantic states, informed me he believed the Catawba grape to be worth all the rest of the grapes in the United States, who has had the best opportunity of judging correctly, having been for 30 years trying very many kinds, and a part of the time on a large scale; five years ago when at his vineyard he showed me seven pipes of wine just made, and he thought he had grapes enough to make three pipes more, and the principal part was made from the Catawba grape.

(From the Southern Agriculturist.)

ON THE CULTURE OF RHUBARB.

BY THE EDITOR.

Read before the Horticultural Society, Oct. 16th, 1832.

(Continued from page 391.)

The Rev. R. H. Wilkinson, in the "Transactions of the Botanical and Horticultural Society of Durham, Northumberland, and New-Castle upon Tyne," gives it as his opinion, that they ought to be sown much thicker than as stated in the extract from the Encyclopedia of Gardening. In a very successful experiment he made, the seeds were sown in March, and thinned in June, to twelve inches apart each way. In the autumn, the beds were covered three inches thick with manure, which was taken off in the spring, and the surface "pointed over between the rows," care being taken not to wound the roots. Numerous stalks were sent up in due time, "long, thick, and

tender," and "as fine," he observes, "as he ever saw in England. As the leaves are the parts used and not the roots, the cultivator must endeavor to promote a production of the former, and not of the latter. This is best effected by having a soil "Not too deep, but very rich, and the subsoil perfectly dry, and as poor as may be. The first will cause the seed to sprout with great vigor, and encourage roots to spread near the surface, the second will hinder tap-roots striking deep into the soil. The plants should stand pretty thick, which by diminishing the light and air about them, will also retard the sending up flower stems, and consequently increase the number and strength of the leaves, which by their own shade will, in a great measure, blanch each other, and be thereby rendered tender and pulpy. The situation should be close and sheltered, where the plants will grow more rapidly, and the leaves be more succulent and less stringy than in a more exposed place, as exposure always has a tendency to increase the stickiness and strength of fibre of all plants which in this case evidently is not desirable. Another thing to be carefully guarded against, is that the crowns of the plants be not injured by frost in winter, as it greatly retards their shooting in spring. This may be securely effected by covering the beds in autumn with a dressing of rotten dung three or four inches thick, which will at the same time enrich the soil. In spring, it should be raked off, and the beds neatly pointed over, taking care, however, not to wound the roots."

The two extracts we have made will afford some idea of the modes of culture adopted in England for Rhubarb. The first is the most general; which will answer best in our climate, remains to be determined. We think, however, that the soil recommended is not the best adapted for us. We would prefer one as deep and as rich as possible, and rather moist than dry. Our opinion may be erroneous, but it is formed on what we have witnessed of the growth of these plants on dry and moist soils on our farm.

The propriety of growing the Rhubarb in shade, even in England, is evident from the following experiment, taken from the Gardener's Magazine. The writer (Anthony Todd Thompson, Esq.) strongly recommends the *Rheum palmatum*, as superior to any other species for making tarts, it is not so early in the season, but yields leaves later than the others. It had not been a favorite, which he appears to think, owing to the small product yielded by the plants cultivated in the usual way. He remarks: "From the observations, which I have been enabled to make respecting the cultivation of the *Rheum palmatum* in market gardens, and even in the garden of the Horticultural Society, I am satisfied that the general stunted appearance of the plants, which is the chief objection made to this species, depends, in a great measure, on the stiffness of the soil, and the too free exposure of the plant to light. We are informed by Dr. Rehnman,* who had the opportunity of seeing this species of rhubarb growing in its native soil and climate, the delicacies of the chain of mountains near the lake Kokovur in Tartary, that the soil is light and sandy, and the Bucharians assert, that the best grows in the shade, on the southern sides of the mountains. I planted two roots of the *R. palmatum*, five years since, in the open part of my small garden, and found that whilst they continued fully exposed to the influence of the light of the sun, the leaves were moderately expanded only, and the foot-stalks not more succulent than those of the other species; but on removing them to a part shaded by rose bushes, the leaves, which have been put forth in each succeeding season, have been very luxuriant."

What is particularly worthy of notice in this extract, is first, that the best is obtained in its native climate from plants growing in the shade; and, secondly, that the plants experimented on, did not

flourish until they were removed from the influence of the light of the sun. If shade is so necessary in England, how much more is it so in our climate, where the heat is so much more intense. When we made our experiment on growing these plants in total shade, we had not seen this article, although this volume had been in our possession for many years; we, therefore, felt much gratified in meeting with an experiment confirming the correctness of the one we made. It will not be difficult for us to find shade enough to grow as many plants in, as will be amply sufficient for private families. We would suggest, however, that the vine trained on high arbors, and open at the sides, in the manner described by Dr. Davis, in the third volume of the Southern Agriculturist, would afford much the best, yielding ample protection from the rays of the sun, without, in the least, obstructing a free circulation of air.

The leaves are fit for use when they are half expanded, but the market gardens leave them until they are fully so, as a larger product is thus obtained. By some, they are blanched, being supposed to be rendered more pleasant, and to require less sugar in preparing them for desserts. It is performed by placing pots, boxes, or any hollow vessel over them, or by earthing them up early in spring. By many, this is not done, being considered unnecessary.

(To be continued.)

(From the New England Farmer.)

FRUIT.

Albany, Jan. 12, 1833.

I accept, Mr. Editor, the invitation of your correspondent, M. S. and send you my opinions and observations as to the cause of the variation of fruits, &c. produced from seeds.

I consider that plants are governed by as fixed laws in regard to propagation, as animals are; that the character of the progeny, in both, partake of the qualities of the parents, and of these alone; and that a cross of two varieties of fruits, of like species, may be obtained with as much certainty, as a cross from two varieties of the same species of animal. There is this difference—though the progeny of the animal can have but one father, that of the vegetable may have a plurality of fathers. Hence the uncertainty of seeds, of which different varieties of the same species flower at the same time in the vicinity of each other, producing like the female parent. The female organ of an apple blossom may be fecundated with the pollen of fifty different kinds, in the space of half an hour. The seeds of all plants where but a single variety is cultivated or grows in the neighborhood, as the butternut, chestnut, wheat, corn, &c. will uniformly produce their kind. An isolated tree, far removed from all others of its species, say of the apple or pear, will do the like; and the peach produces its kind with more certainty than the apple, from the fact, that a single variety, or single tree, is more frequently grown at a distance from other varieties than is the apple. We see this law of the vegetable kingdom beautifully illustrated in our corn-fields. When there is but one kind planted, as the white, yellow, flint or gourd, there will be but one kind in the product. Where there are two kinds in adjoining rows, they will intermix. The pollen of the male organ of the blossom must come in contact with the pistil or female organ, or the seed will be abortive. Cut off the tassels as they begin to develop, of a hill of corn standing alone, or cover or destroy the silk of a particular ear, so as to prevent the contact of the pollen, and you will find at harvesting nothing but a naked cob.

Upon this law of the vegetable kingdom florists have based their practice of multiplying the varieties of the most esteemed flowers, as the rose, the dahlia, the comelia, geranium—the new varieties being the product of artificial or accidental fecundation of the pistil of one with the pollen of another variety. And the experiments of Knight and other pomologists have

left no room to doubt upon this subject. The distinguished gentleman I have named has not only, by artificial crossing, produced new and superior varieties of garden and orchard fruit, but many new varieties of culinary vegetables. I have in my grounds several of his apples and cherries produced in this way, and know the parents from which they were produced. So far as I can now judge, the wood partakes more of the female, and the fruit of the male parent. The Fawley and Siberian Harvey apples, from the seed of the Siberian crab, fecundated with the pollen of the golden harvey, resemble in hardness of wood, shape of tree, and beauty of foliage, the male parent; while the size of the fruit, in the new kinds, is generally intermediate between that of the parents. It is worthy of remark that the wood of all the new kinds is remarkably clean and healthy, and would seem to strengthen Mr. Knight's theory, of the deterioration of old varieties.

In regard to the fecundating process, your correspondent asks, by way of doubt of the generally received opinion, "how did the first varieties of fruits originate? I am a yankee, and will answer his question by asking, how did the first varieties of animals originate? A solution of my question will afford an answer to his.

I believe with Mr. Knight and Dr. Van Mons, that the seeds of young and healthy varieties will be more apt to produce good fruit, than those of old and decayed varieties of the same quality; because the progeny, as I have observed, will partake largely of the youthful vigor of the male parent—and I suspect your correspondent has misapprehended Prof. Poiteau; and that the Professor prefers seed of austere pears, not on account of the quality of the fruit, which, I conceive, is not likely to be perpetuated by the seed, for the reasons I have stated, but because the poorer sorts grow only upon seedlings, or young and healthy varieties—poor pears never being perpetuated by grafting and budding.

There is a fact in vegetable physiology which to me is inexplicable, and which I should be very much obliged to any of your correspondents for an explanation, it is this:—It is well known to nurserymen that the roots of a grafted or budding tree take the habits of the scion, that is, they are numerous and ramified, horizontal or deep, according to the habits of the variety from which the variety is taken, and generally conform in their direction and volume to the shape and abundance of the top; and yet the sprouts which spring from these roots invariably, I believe, take the character of the original stalk. I will state a case: bud a peach on a plum-stalk, at the surface of the ground, when it has but a few inches of root, the bud not only gives a character to the branches and fruit, but apparently to the roots which succeed, and which are alone produced by the sap elaborated in the peach leaves, and yet the sprouts which shoot from the roots will be plum sprouts. My wonder is why the roots should retain the character of the stock, after they have been enveloped and seemingly lost in the growth produced by the scion. The quince and the paradise apple are the only cases that I remember in which the character of the roots are not materially changed by the scions engrafted into them.

The process of obtaining good fruits from seed, is tedious and uncertain. Perhaps not one in a thousand will be worth preserving, and years must elapse ere the question can be solved. Whereas by grafting good kinds may be obtained with certainty. Our nurserymen make it their business to collect and propagate all the good varieties, whether native or foreign; and any gentleman who is not acquainted with their relative merits, and very few are, will find it his interest to confide to them, partially or wholly, the selection of his fruit trees. The difference in the profit of cultivating good or bad fruit is immense. A neighbor this year sold pears from two trees for \$45; while other neighbors did not realize this amount from fifty trees of bad or indifferent fruit. B.

* Vide *Mém. de la Société Impériale des Nat. de Moscou*, 1809, tom. ii.

(From the Genesee Farmer.)

YELLOW LOCUST.

There is probably no tree in the American forest which is more valuable or more easily cultivated than the locust, and yet none which is more neglected by agriculturists.

The locust is the *Robina pseudo-acacia* of Linnaeus, and bears a fine white and fragrant blossom. It is a native of the United States, but was not known north or east of Maryland at the settlement of this country. Since that time it has been conveyed in all directions by the settlers, and is now well known throughout the United States. In New England it has not flourished as could have been wished, notwithstanding much care was early bestowed upon it. An insect, commonly called the *borer*, attacked it with great energy, and destroyed its beauty and usefulness. In this state, and further south, the *borer* seems not to have penetrated, and locusts continue to be reared in all their pristine beauty and vigor.

The delicacy and fragrance of its foliage renders it not only agreeable for its shade, but delightful to the eye, while at the same time it is almost entirely free from worms and other disagreeable insects. As an ornamental tree, it is not surpassed by any in our country, and should be held in the highest estimation both for beauty and usefulness. The odor of its blossom is truly delightful, and sheds its balmy influence to a great distance around the tree.

The locust is exceedingly luxuriant in its growth, and though the wood is very hard and durable, no tree, except the Lombardy poplar, increases in bulk with so much rapidity. It is this quality which renders it so desirable to be cultivated by our farmers as an article of profit.

Its uses are very extensive, though its principal and most certain application is for ship building. The demand for this purpose is almost unlimited, so that where the locust is cultivated as an article of profit, it is hardly permitted to arrive at the requisite size before it is taken for the ship yard.

The live oak, the locust, the cedar and the pine, are the four ingredients which comprise most of the wood work of all our ships, the locust forming no inconsiderable item in the structure, and it is to the combination of these materials that the great excellence of American shipping is to be attributed.

Their cultivation, therefore, is of the utmost importance to our country, and deserves the highest consideration. Aside from this, in all places where wood is scarce, or fencing timber in demand, the locust becomes invaluable. No tree except the cedar is so durable for posts, and none can be reared with more rapidity for fire wood.

In this vicinity the locust thrives with great luxuriance. Its cultivation is easy, and is not retarded by the *borer*, or any other insect. It delights most, however, in rich loamy soils, and it is astonishing to witness the progress a tree will make in one season in such a situation.

The locust is raised either from the seed or suckers. The former mode is the one to be adopted at the outset for profit. There is no difficulty in transplanting them, and if care is taken to preserve the small fibrous roots, it is rare that a plant will die. Seed is easily procured in this vicinity, as almost all our trees of any size produce abundance. To make them vegetate freely it is desirable to soak them a few hours in water, which was poured upon them boiling hot. Then sow in drills about four feet apart, and they will come up as regularly and as certainly as beans. Let them remain in their seedling location two years, and in the spring of the third year, transplant them to the ground prepared for the purpose. The ground should be well mellowed, and the richer the better. After a year or two the ground can be used as pasture, without any detriment from the presence of the trees.

Spring before the last, I sowed in my garden a few

seeds to observe their progress. The first season they grew about four feet high, and half an inch in diameter. The last summer the increase was enormous, and they now measure from nine to twelve feet high, and one and a half inches diameter two feet from the ground.

To test the profit in rearing locust trees, we will resort to figures. An acre of land contains 160 square rods, and most land will easily sustain four trees to the rod. On an acre then, we can raise, for the purpose in question, 640 trees.

I propose to let them grow from the seed twelve years; two years in the nursery, and ten in the field. One-fourth of an acre will be abundant nursery room. Let us take ten acres for our field data. Ten acres will sustain 6,400 trees. We will average the cost of an acre of ground at twenty-five dollars. At seven per cent. compound interest, it will nearly double in ten years. Call the cost then, at the expiration of the ten years, fifty dollars. A thrifty locust tree, twelve years old, is worth, at a ship yard, five dollars. We will suppose it to net three dollars. We shall then calculate as follows:

Interest on 10 acres of land, cost \$25, for	
10 years, is \$25 per acre,	\$250
Labor of cultivating, by occasional manuring,	
&c. \$10 per year,	400
Seed, and two years in nursery, say - -	100
	\$750
Deduct this from 6,400 trees, 12 years old, at	
\$3 each, - - - - -	\$19,200

Net profit for ten years, - - - - - \$18,450
Now, if you please, deduct one-half, for paper calculation, and you still have left the enormous sum of, - - - - - \$9,225

To what more profitable use can a farmer apply ten acres of ground, supposing he has enough beside to cultivate for his yearly living and profit.

Contrast this statement with the profit on wheat. The average crop is about twenty-five bushels per acre, and the average price we will call one dollar. About one-half of the proceeds is consumed in interest, expense and labor of cultivation. We then have, for ten years, nearly as follows:

Wheat for ten years, from ten acres, at 25	
bushels, and \$1 per bushel, - - -	\$2,500
Deduct one-half for interest, expense, &c. - -	1,250

Net profit for ten years, - - - - - \$1,250

Aside from ship building, every locust tree, twelve years old, is worth at least one dollar, at the place of its growth, for posts. According to the above calculation, we should net, even for this purpose, over \$5,000.

QUERCUS.

(From the Genesee Farmer.)

THE BARBERRY.

1 mo. 8, 1833.

Our barberry bush is loaded with fruit; and at this season it is the most beautiful of all our shrubs. A British author calls it "an ornamental shrub, a fruit tree, a hedge plant, a dye, a drug, and a reputed enemy to the corn farmer." He continues: "When covered with flowers in spring, or with fruit in autumn, it is a fine object. The leaves are gratefully acid to the taste. The smell of the flowers is offensive when near, but pleasant a certain distance. The berries are so very acid that birds seldom touch them. The barberry boiled with sugar forms a most agreeable rob or jelly; they are used likewise as a sweet-meat."^{*}

It is a cause for regret that this fine shrub is so rarely introduced. This neglect is probably owing to an old notion that it causes the blight in wheat; but I am disposed to consider it innocent until it be proved

guilty. "It is supposed by some," says a late writer, "to cause wheat growing near it to become mildewed; but this is denied by others." A later author in reference to mildew says: "It has been often asserted, and was for a long time believed, that the neighborhood of barberry bushes was hurtful by attracting the noxious fungus, but this idea is now classed among unfounded prejudices."[†]

All the evidence that I have seen against the barberry bush is of the most improbable kind; and the witnesses are not agreed among themselves. A fungus peculiar to this plant called *Æcidium berberides* has been strangely supposed to produce another fungus called *Puccinia graminis* which causes mildew. Not the slightest proof of the connection has been furnished.

Another sample of the manner in which this subject has been treated, is afforded by the following question and answer.

"Why has the barberry been banished from the hedge-rows in England, where it formerly grew in great abundance?"

"Because it was generally believed to be injurious to the growth of corn. This belief has been treated as a vulgar prejudice; but the fructification of the barberry is incomplete unless the stamens be irritated by insects, when the filaments suddenly contract towards the germ. The flowers are therefore by a beautiful arrangement of nature peculiarly attractive to insects, and thus barberry may become injurious to neighboring plants."

A full reply to the question is probably contained in the first sentence of the answer; but it proves nothing against the barberry but a general prejudice. It is not shown that the irritation of insects is necessary to the fructification of the barberry, and I am strongly inclined to doubt it. If it were shown it would only be a parallel case to that of melons or cucumbers; and what then? Insects that visit the barberry flowers have never been proved injurious to wheat; and all those which I have had a chance to observe remain even unsuspected of committing any such depredations. This attempt at argument is therefore entirely abortive.

Some reason for the mildew on wheat which may sometimes occur in the neighborhood of the barberry, perhaps may be found in the following extract; but it is to be observed that the objection against it is not stronger than against any other shrub with a foliage equally dense. Speaking of blight or mildew the author says, "This disease has been ascertained to result from the presence of a very minute species of fungus."

Fungus thrives best in damp and shady situations a circumstance which seems to point out naturally the propriety of providing means for the free ventilation of the fields, keeping low the hedges and fences by which they are surrounded. For the same reason it is found that thin crops, and such as are sown by drilling or dibbling, are the most likely to escape."

Wherever I have seen the barberry growing in grass plats, it had a stunted appearance; and to insure its beauty, the ground near it ought to be well cultivated. D. T.

POTATO FRUCTIFICATION.—On the 14th of May last, Mr. James M. Duff, at Brooklands, picked a large potato from his heap, cut it up, and planted the sets on a square piece of ground, and occasionally added more earth as the stalks waxed in length and strength. The produce of the single root, when dug up on the 6th inst. yields a potato for every day in the year, or in other words no less than 365, and giants of their kind into the bargain; many of them weigh from one pound seven ounces, and one pound one ounce each—sixteen ounces to the pound.—*Dunfries Courier*.

* Gray's Nat. Arr. Vol. 2.

† Lib. of Ent. Knowledge, Part 29, p. 47 & 48.

Lib. of Ent. Knowledge, Part 29, p. 47 & 48.

* Loudon's Encyclopedia of Plants.

RURAL ECONOMY.

(From the Genesee Farmer.)

PEBBLE STONE FENCE.

Lockport, 1 mo. 8, 1833.

As much of the land in this section of our country abounds in small stone, which are not only useless on the land where they are found in such abundance, but sometimes, and in some places, amount to a serious inconvenience, I have frequently thought they might be advantageously disposed of in the following manner:

Whenever a permanent fence is designed to be built, let a trench be opened two feet wide and one foot deep; let this trench be filled with stone without mortar, closely laid in; this will secure the wall to be laid on it from frost. On these stone commence the wall for fence, which may be done as follows: First prepare a box or mold, sixteen and a half feet long, four and one-half feet high, and one and a half foot wide at the bottom, and nine inches at the top, of plank one and a half inch thick. The sides of this box or mold should consist of several pieces of plank, but all of the same thickness, width, and of the above length. These may be supported in their proper places by four or six pieces of three by three scantling, the lower ends of which may be placed on the outer edge of the wall in the trench, and the upper ends held together by a clamp of wood fastened to one of those posts or pieces by a hinge. Through the other end of the clamp let a hole be made with an inch and half auger, and a tenon to suit it made on the opposite post, and so of all the others. This done, and the posts set in their proper places, let another fastening be made of a piece of large iron wire, to be fastened to one post by a staple, to which this small iron rod is permanently attached; into the other post put a staple also, into which the end of the rod, bent into the form of a hook, is to be placed. This rod should pass from one post to the other just at the top of the wall, or where the top of it will be when finished. This will hold all firm and steady. This done, place the two bottom planks in their places, and to prevent their falling in, lay a stone against each, and commence the wall by laying on a coat of this lime mortar, with a large proportion of sand in it, say twelve to one at least of sand, viz. to one of unslaked lime, if the lime and sand are both of the first quality; twenty of sand to one of unslaked lime will be better, or at least full as good; but in this case the sand must be free from earth, and coarse. Lay on this mortar, for the first layer of stone, at least one inch above the bottom stone; then more stone, then more mortar, and so on, till the mold or box is filled. Let all remain in this situation till the mortar is set, or become stiff enough to support itself. Then the clamp at the top may be removed, as also the iron fastening, and the plank taken away. This should be done, if practicable, on a fair dry day, so that the wall may dry as soon as possible. The mold may then be placed on another section of the basement wall, and proceed as before, and in this way continue to operate till the contemplated fence is finished.

A more expeditious mode of constructing the above kind of fence, if not the best, would be to throw in the stone promiscuously into the mold, or dump them in from a cart, and spread them along with a large toothed iron rake, or any other more convenient implement, especially if the stone be quite small, till it is filled to the top of the first plank; then pour in the mortar of the above proportions, in the form of *grout*, so then as easily to find its way into all the interstices between the stone, and the mold allowed to remain till the mortar becomes hardened, and the pebbles become fixed in it, then to be removed as from the other. If easily obtained, coping should be placed on the top of the wall to prevent the rain from penetrating it; as in that case, and when suddenly frozen, the ice would expand and injure the wall. When coping stone are

not easy to be had, thick heavy slabs from a saw-mill, which can be had for a cent each, will answer every purpose. Slabs are to be preferred to plank, as they, from their thickness, are not so liable to warp, or to be blown off with the wind. The above kind of fence, when the materials can be easily procured, or are within a short distance of the line of the fence to be built, it can be built for one dollar, or one dollar and twenty-five cents a rod; and it has many advantages over most other kinds of fence, some of which are, 1st, its durability; 2d, its compactness, which entirely prevents mice, and other such like troublesome animals, from burrowing in it, as in loose stone wall; 3d, it may be covered with vines, such as the trumpet honeysuckle, and the whole family of that plant; or

even with some of our indigenous grapes, such as the Isabella for instance, whose fruit would soon repay the whole expense of erecting the wall; besides, it would become a fit haunt for birds, who would nestle there and rear their young, and not only subsist them, but themselves, on insects and caterpillars, worms, &c. which often prove so destructive to our fruits and plants, and even to the foliage of our trees and shrubs. Now a wood fence would not bear the shade and dampness of those vines without suffering immediate and great deterioration, and even destruction. Not so with the wall. That suffers nothing from shade and moisture, or next to nothing. Such a fence carefully constructed, and slabs or coping kept on it, will endure for centuries.

J. W. SMITH.

METEOROLOGICAL JOURNAL.

For 1st mo. (January,) 1833, kept at Clermont Academy, near Philadelphia, by S. S. GRISCOM.

Day of the month.	Therm. at sunrise.	Clouds at sunrise.	Winds at sunrise.	Remarks, a.m. and at m.		Max. of Therm. p.m.	Clouds at 2 1/2 p.m.	Winds at 2 1/2 p.m.	Remarks p.m. and evening.	
				a.m.	m.				p.m.	9 p.m.
1 50	cms.	se2	r.		54 cms. se1 r.	55	cms.	se1 r.	48 ms. s.w1	
2 37	cm;	nw1	w frost;		43 c, e2	45	c,	ne1	39 mc:0 cl'ds from nw	
3 38	mcs:	nw1			48 cm,nw,smoky!	50	mc;	w1	41 0. 0. fog:	
4 36	c,	w2	frost; ice,		49 c, sw3 smoky!	54	c;	sw3	43 c, 0	
5 42	c,cs,	sw1	fog,		57 c, sw3 haze	60	c,	sw2	49 cc; sw1	
6 48	cs:	sw1	r,		61 cc, cs: sw2	63	cs:	sw4	53 cs: sw2, 55° at 11	
7 44	cs:	nw4			44 c: nw4	43	cs:	nw4	32 cs: nw1	
8 28	cs.	nw1			34 cs. nw4	32	cs.	nw4	31 cs. w1	
9 27	cs,	nw4			38 cs, w1	39	cs,	w1	35 cm: cs. sw2	
10 35	cms.	e1	snow,		33 cms.nw3 snow:	31	cs.	ne4 snow,	26 snow,nw5 nw8	
11 12	0	nw8	12° at 8,		18 0 nw8	20	ms,	nw7 cs, nw5	19 cs, nw3	
12 16	cs,ms,	nw2			27 mcs:nw5 snow	28	ms;	nw6	20 0. nw2	
13 19	c;	w2			32 c; cs, sw5	34	c;	sw6	28 cs; w2	
14 26	0	sw2			38 ms, w4	39	ms,	nw5	28 s. nw2	
15 19	cms:	ne2	cl'ds from w		35 cs. e2	38	cms.	se4 snow,	37 r. se3	
16 42	cms.	sw4	ms: nw5		47 c, ms; nw5	45	cs;	nw5 nimb.r, wsw8	30 0 nw5	
17 19	ms,	nw7	19° at 9		20 ms, nw6	21	ms,	nw6	19 0 nw3	
18 21	c;	sw4			33 cs, sw2	35	cs;	sw2	28 cs, sw2	
19 4	cs;	nw6			29 ms: nne4	29	cs.	nne4	24 cms. ne4 snow,	
20 29	cs:	0			45 s.cs: sw2	43	c;	sw2	33 fog; w0	
21 31	fog! sl,	0	sleet,		39 fog! damp e0.	39	fog!	ne1 fog, damp	36 fog, r, nne1	
22 33	do do	0,e,	fog!		41 fog! damp sw0	41	fog!	e0 damp	35 r: fog; ne2	
23 37	mcs.fg;	ne2	fog,		39 cms. ne1	39	fg.cms.	ne1 damp	37 cms. e1	
24 37	mcs.r;	ne4			40 cms. ne4	39	cms.r:	ne4 r,nw6	38 cms.r ne8! l, hail,	
25 35	cms.	nw4			41 cms. nw2	42	ms:	nw4 nimb. r,	37 cms.r nw6	
26 26	ms,	nw5			32 c, w4	34	cs;	w4	32 cs; w2	
27 31	cs:	se1			37 c; se1	38	cs,	0	29 c, w1	
28 32	cs:	nw2			43 ms; nw3	40	ms,	nw5	27 0 nw2	
29 27	cs:	se1			36 cs. e2	36	cs thin	nw2	33 cs. dense nw2	
30 35	strat.	sw2	damp		43 strat. r, se2	44	strat. r,	se1 strat! r;	43 cms.r ne4 ne8	
31 37	mcs. r.	ne8	hail.		30 snow, h. r. ne8	27	mcs.sno	ne8 snow.	25 cs. ne7	

SUMMARY.

Mean heat at sunrise, 31.39.

Mean at mid-day, 39.45.

Mean for the month, 35.42.

Range, 51°.

Warmest day 55.5, 6th.

Coldest day, 16°, 11th.

Wind west on twenty days.

Wind east on eleven days.

Maximum temperature, 63° on 6th.

Minimum temperature, 12° on 11th.

Rain on nine days.

Snow or hail on seven days.

Fair nineteen days.

Cloudy and stormy twelve days.

Temperature above 55° on three days.

Temperature below 32° on sixteen days.

Temperature compared with last month, 3.31° colder.

Temperature compared with same month of last year, 3.92° warmer.

MEMORANDA.

1st. At 9 P. M. a very dense fog came on suddenly after a day of warm rain.

3d. Weather remarkably mild, the frost entirely out of the ground.

6th. The air mild and bland as summer, chickweed, &c. in full flower. Some black beetles and other insects quite lively; earthworms and moles at work.

7th. In the evening a most beautiful halo around the moon, on the CS.—the circle was complete 45° in diameter, showing the prismatic colors beautifully; no stars were visible within the circle, though several appeared without it. Mountain pink in flower.

9th. A remarkably high tide in the city, over many of the wharves.

10th. Snow all the morning; at 9 P. M. 26° N. W. s. snowed violently for an hour, then cleared and became very cold.

11th. 12° at sunrise, 12° at 8 A. M. N. W. S. this morning 51° colder than the 6th.

14th. Day fine, blue birds singing—stars very bright and numerous in evening.

16th. Nimbus having every appearance of a thunder shower, W. S. W. S!

18th. River full of ice. Steam ferry-boats stopped for the first time.

21st. Thick fog in the morning 31°, quite a sleet on the trees from the freezing of the condensed vapor.

22d. Fog very dense—a little sleet in the morning—water constantly dripping fast from the trees—rain at sunset.

24th. In the evening heavy gusts of rain and hail, with some lightning, wind N. E. 9! a complete gale.

25th. We were visited to-day by a numerous flock of sparrows, the first seen here for a long time. Our only visitants of the kind are the crows—they come in great numbers from New Jersey, stay with us through the night, but go back again regularly at night.

29th. Mules again at work, and a flock of meadow larks observed.

30th. After a thick fog the wind came out from N. E. and blew a gale with snow, hail and rain, all night, and through most of the next day.

Prices Current in New York, February 16.

Peas, yellow, 18 a 20. *Cotton*, New Orleans, .11 a 13; Upland, .92 a .11; Alabama, .92 a .12. *Cotton Bagging*, Hemp, yd., .13 a .21; Flax, .18 a .14; Flax, American, 7 a .8. *Flaxseed*, 7 bush. clean, 15.25 a —; rough, 14.25 a 14.50. *Flour*, N. York, bbl. 5.75 a —; Canal, 6.00 a 6.25; Balt. How'd st. 5.62 a 5.75; Rhd'd city mills, — a —; country, 5.50 a —; Alexandria, 5.50 a 5.87; Fredericks', 5.50 a —; Peters', new, 5.50 a —; Rye flour, — a —; Indian meal, per bbl. 3.75 a —, per hhd. 17.00 a —. *Grain*, Wheat, North, — a —; Vir. 1.14 a 1.18; Rye, North, .85 a .90; Corn, Yel. North, .73 a .75; Barley, — a .75; Oats, South and North, .45 a .50; Peas, white, dry, 7 bu. 5.00 a —; Beans, 7 bu. 6.00 a 9.50; *Provisions*, Beef, mess, 8.25 a .675; prime, 5.25 a 5.75; cargo, — a —. *Pork*, mess, bbl. 12.50 a 13.50, prime, 11.00 a 11.25; Lard, 74 a .9.

FRESH GARDEN SEEDS—NEW STOCK.

I am now receiving from Europe my supply of those Garden Seeds, which it is necessary to import, which together with those of my own raising, and other American Seeds, make my assortment one of the most complete ever offered in this market.

With regard to the quality of the seeds I offer, I can only say I am confident they are good—perfectly so, and I am fully aware that this circumstance is of far more importance to myself than to any of my customers. It is under this conviction that I offer my present stock to the public.

I. I. HITCHCOCK
American Farmer Office and Seed Store.

SINCLAIR AND MOORE'S NURSERY.

The Proprietors are about to clear a part of the ground, now occupied with white Mulberry Trees, in order to plant other articles, to which the exposure is peculiarly adapted, in consequence will dispose of them at very reduced prices;—after these are sold the regular price will be ten dollars per hundred for trees eight to ten feet high.

They also offer for sale at reduced prices an extensive assortment of Ornamental Trees and Shrubs, fifty kinds of hardy Rose Bushes, (among which is the much admired *Grevillea*) double *Aithes*, Honeysuckles, *Corcorus*, *Lilac*, *Snowberry* and *Buffalo* Berry Trees, Chinese *Alanthus*, white flowering *Horsechestnut*, and silver leaved *Maple*, all of large size, (the latter is a beautiful shade tree), large red and white *Dutch Currant*, red and white *Antwerp* and other *Raspberry* Bushes, *Strawberry* Plants assorted, (large plants raised carefully for sale), white and black *Walnut*, *Quinces* assorted, *Peach*, *Plum*, *Pear*, a large stock of very superior kinds, *Apple*, *Plum*, *Pear*, *Cherry* and *Nectarine* Trees, *Grape* Plants and Cuttings of several varieties, *Asparagus* and *Hop Roots*, and *Thorns* for hedging.

Apply at the Nursery, or at their store, corner of Pratt and Light streets. Feb. 22.

REMOVAL.

SINCLAIR & MOORE have removed their AGRICULTURAL REPOSITORY to the CORNER OF PRATT AND LIGHT STREETS, HEAD OF THE BASIN, where they offer for sale a general assortment of IMPLEMENTS, SEEDS, FRUIT TREES, &c. &c.
Feb. 22.

SCIONS FOR INGRAFTING, &c. &c.

LINNÆAN BOTANIC GARDEN AND NURSERIES.

WILLIAM PRINCE & SONS, Proprietors of this Establishment, having annexed thereto very extensive *Specimen Orchards*, containing all the varieties of fruit enumerated in their Catalogues, will, to accommodate distant correspondents, furnish Scions suitable for engrafting, of any varieties that may be required on the terms stated at page 39 of their Fruit Catalogue, viz. fifty cents per dozen, for scions of any one kind where the price of the tree does not exceed that sum; and where it does, the same price for a dozen scions as for a tree. In no case is a less charge made than for a dozen.

Scions of Grapes and of various Trees and Shrubs can be supplied. The great advantage of the above is, their small bulk and cheapness of transportation.

They have also imported, by the last arrivals, several thousand dollars worth of vegetable seeds of the choicest varieties, and will furnish supplies to vendors at low rates, and of a quality not to be surpassed.

They have two hundred pounds of Yellow Locust, or *Robinia pseudoacacia* Seed of the fine Long Island variety, so famed for ship timber, and expect by the first arrival one hundred pounds finest White Italian Mulberry Seed for silkworms.

Priced Catalogues of every department will be furnished on application direct, by mail or otherwise, and the prices have been much reduced.

N. B: No articles are guaranteed by them, unless the invoice has their printed heading and signature.
Feb. 15.

FIELD AND GARDEN SEEDS, &c.

J. S. EASTMAN offers the following Seeds for sale, viz. CLOVER, TIMOTHY, MEADOW GRASS, MILLET, LUCERNE, COW PEAS, LARGE YELLOW PUMPKIN, and EARLY WHITE CORN.

Also a general assortment of GARDEN SEEDS, and WHITE ONION SETS.

Likewise in store, a general assortment of AGRICULTURAL IMPLEMENTS, embracing almost every article in the farming line, which he will sell low for cash or approved city acceptances.

He must decline opening any new accounts, except with those who will be liberal customers, and can give good references; and all such accounts he expects to be promptly settled once a year; and those who have accounts standing on his books over one year, are desired to settle the same. All Grass Seeds must be considered cash. Liberal discounts will be made on all implements purchased by merchants and others to sell again.
Feb. 15.

SPLENDID PEONIES.

Just received and for sale at the American Farmer Office and Seed Store, a few of the POPPY FLOWERING TREE PEONY. (*Pæony arborea papaveracea*) and of the TREE PEONY, (*Pæony arborea*). To experienced florists it might be needless to say a word about the great beauty of these plants; but the public generally may not be as well informed. A recent publication on horticulture thus describes the tree peony: "In the gardens of China they cultivate an immense number of varieties of this splendid plant,—some of which are said to be sold as high as a hundred ounces of gold; and in so much esteem it is held by them that it is there called the 'king of flowers.'"—*Prince's Treatise on Horticulture*. Of the poppy flowering peony the same work thus speaks: "The flowers of this plant are single or semi-double, but being of a pure white color, with a purple centre, they combine a delicacy calculated to excite great admiration; it is also more rare than the tree peony, and it is but a couple of years since Messrs. Prince paid five guineas for a very small plant." Price of the poppy flowering peony \$5 each, and of the tree peony \$2.50 each.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—The market continues quiet inactive. Our quotations embrace the rates at which the few sales have been made. Howard street flour from wagons continues at \$5. The price of corn can scarcely be given satisfactorily, as there have been very few sales.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15 00; yellow and red, 9.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 26.00.—Virginia, 4.00 a —. Flappanahock, 3.00 a 4.00.—Kentucky, 3.50 a 4.00.—The inspections of the week comprise 13 hds. Ohio.

FLOUR.—best white wheat family, \$6.75 a 7.25; super Howard-street, 5.12½ a 5.25; city mills, 5.00 a —; city mills extra 5.00 a —. CORN MEAL libl. 3.50;—

GRAIN, best red wheat, 1.00 a 1.05; white do. 1.05 a 1.10;—

CORN, white, 55 a 58, yellow, 55 a 58;—Rye, 70 a —

OATS, 40 a 41;—BEANS, 55 a 80;—PEAS, 65 a 70;—

CLOVER SEED 3.00 a —. TIMOTHY, — a —. ORCHARD GRASS 2.75 a 2.85;—Tall Meadow, 2.00 a 2.50.—Herd's, 2.5 a 1.4;—Lucerne — a 374 lb.

BARLEY, FLAXSEED 1.10 a 1.62;—COTTON, Yd. 10 a 12;—Lan.

12 a 13;—Alab. 10 a 11½;—Tenn. 10a. 12; N. Car. 10 a 12;—

Upland 10 a 12;—WHISKY, hhd. 1st p. 284 a;—in bbls.

294 a 30;—Wool, Washed, Prime or Saxony Fleece, 45 a 50; American Full Blood, 38 a 42; three quarters do.

33 a 38; half do. 30 a 35; quarter do. 28 a 30; common 25 a 28.

Unwashed, Prime or Saxony Fleece, 25 a 30; American Full Blood, 22 a 25; three quarters do. 20 a 22; half do. 16 a 20; quarter do. 16 a 18; common, 16 a 18

Hemp, Russian, ton, \$160 a 210; Country, dew-rotted, 6 a 7c. lb. water-rotted, 7 a 8c.—Feathers, 37a 38; Plaster

Paris, per ton, 5 25 a — ground, 1.50 a — bbl.

Iron, gray pig for foundries per ton 33.00 a —; high pig for forges, per ton, 25.00 a 30.00; bar Sus. per ton, 75.00 a 85.00.—Prime Beef on the hoof, 5.50 a 6.25;—

Oak wood, 4.00 a 4.50; Hickory, 5.50 a 6.00; Pine, 2.25.

CONTENTS OF THIS NUMBER.

Editorial; Preserved Yeast; To make Good Wheat Bread; To make Fine Rusk; To make Apple Dumpings—Remarks on the Warrenton Grapevine, by T. McCall—Experiments in Calorie—Foreign Markets—Remarks on Agriculture—On the Culture of Corn with the Plough, unassisted by the Hoe, by Thomas Parker—Account of Several Premium Crops of Corn and Potatoes, by Dr. C. W. Capers—Seed Wheat, Chess, &c.—Cultivation of the Poppy—Difference between buying Potatoes and having them to sell—Field Culture of Carrots—Vines best adapted to Culture, &c. in the latitude of Baltimore, after ten years Experience and Observation, by Robert Sinclair—On the Culture of Rhubarb, by John D. Legare, Editor of the Southern Agriculturist, continued—Cause of the Variation of Fruits, &c. produced from Seed—Yellow Locust—Remarks on the Barbary—Pebble Stone Fence—Samuel S. Griscom's Meteorological Journal for January—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

The American Farmer,

Edited by GIDEON B. SMITH, is issued every Friday.

TERMS.

1. Price five dollars per annum: due at the middle of each year of subscription, provided that no balance of a former year remain unpaid.

2. The manner of payment which is preferable to any other for distant subscribers, is REMITTANCE BY MAIL OF CURRENT BANK NOTES; and to obviate all objection to this mode, the publisher assumes the risk.

3. Subscriptions are always charged by the YEAR, and never for a shorter term. When once sent to a subscriber, the paper will not be discontinued (except at the discretion of the publisher) without a special order, on receipt of which, a discontinuance will be entered, to take effect AT THE END of the current year of subscription.

4. PRICE OF ADVERTISING.—One dollar per square, and in the same proportion for more than a square, or more than one insertion.

5. DIRECTION OF LETTERS.—Address all BUSINESS letters concerning the Farmer, the store, or the agency, to the proprietor, "I. Irvine Hitchcock, Baltimore, Md."

Printed by J. D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, MARCH 1, 1833.

PERSIAN TOBACCO—MEXICAN COTTON, &c.—Last year we distributed a small quantity of Persian tobacco seed, received from George D. Blakely, Esq., who received it from the agricultural society of Calcutta. See vol. 13, page 271. One of the gentlemen to whom we sent the seed has sent us an account of his experiment with it in the following letter, with specimens of the tobacco. Our correspondent gives no opinion as to the quality of the tobacco. For smoking we think it no way comparable to "Kentucky fat." It certainly has no fine flavor. How it will do for chewing we are not able to say; but if strength be any recommendation it has enough of it.

The naked seeded cotton is a curiosity. The seeds are attached together in rows of five or six in each division of the boles, and are as perfectly naked as the seeds of the hibiscus; while those boles that have cotton about them are detached in the usual way, though the cotton does not adhere to them as in the common kind.

We are much indebted to our correspondent for his attention, and shall avail of any opportunity that may offer to send him other seeds.

"In fulfillment of my promise made when I wrote to you for the Persian tobacco seeds, I now send you herewith some samples of the tobacco produced from the seeds sent to me, also some of the seeds for further distribution. I succeeded in raising only 42 plants, having sowed the seed at three different periods, the first and second, on the 6th and 23d of February, none of which germinated; the third on the 3d of March, a part only of which came up. Transplanted 10 plants on the 23d May; the balance on the 27th June. The first 10 plants threw out innumerable suckers or sprouts about the 15th June, and the seed pods were formed on the 25th June; on the 28th June the plants did not exceed 9 inches in height. Topped some of the first, 5th July. One plant being in bloom was left for seed.—Its growth is uncommonly rapid after it has been planted out for about a month, and has a great propensity to throw out suckers or sprouts. The stalk is much smaller than the kitefoot, the leaves short, yet very broad. I measured one which was 22 inches across. It grows tall, and the leaves are further apart than common tobacco. In its green state it possesses considerable fragrance, and the flowers, in odor, somewhat resemble the damask rose, while those of the common tobacco are scentless, a fact I did not know until I compared them with the Persian. I noticed that when the plants are young, the leaves close up together at night, somewhat like a young cabbage.

"The samples forwarded are, No. 1, of the first plants, cut 2nd August; No. 2, of the second transplanting, cut 31st August; No. 3, suckers or sprouts, which were thrown out from the old stubble after the first cutting, and which were cut on the 26th September. The suckers from the last were caught by the frost, and were cut 6th October. I have not sent any of these. The frost did not have a more injurious effect on the Persian than on the suckers or sprouts of the kitefoot. I had one remarkable stalk of the Persian tobacco. It presented four distinct stalks regularly growing out from the ground, and resembling four sprouts or twigs thrown out from a live stump. I suffered all four to grow, and managed them as if they had been four separate plants; they were cut and cured by themselves, and weighed 143 oz.

"I send you also some of the naked cotton seed which I alluded to in my communication last year. [See American Farmer, vol. xiii, page 290.] Also some cotton produced from the seed. I planted or sowed it in June. Not more than one stalk out of 100 produced cotton—some boles had a thin scattering furze resembling down, slightly attached to the seed.

"I take this opportunity also of sending you some water melon seed, the originals of which were brought from the island of Sicily—I raised about a dozen last season—they are quite delicious in taste, and the meat or pulp is much more firm than the common kind. "I should be glad to procure uncommon seeds of any kind, that I may experiment upon them."

LONDON MILK.—It appears that the Londoners consume a great quantity of milk: no less than 15,937,500 gallons are used annually in the metropolis and its suburbs. It appears that the entire number of cows kept by the London cow-keepers amounts to 8,500, viz.—7,200 in Middlesex, 681 in Kent, and 619 in Surrey. Each cow on the average yields nine quarts per diem, or 3,285 quarts per annum; but deducting 28½ quarts for suckling, casualties, &c. gives us a total of 6,375,000 gallons of pure milk, to supply the consumption of London and its vicinities. The retail vender adulterates it with water, at least 150 per cent.—which gives the startling total of 15,937,500 gallons per annum. Each dairy-room is furnished with a pump, to which the retail dealers apply in rotation, and pump away, "*ad libitum*." A considerable cow-keeper in Surrey has a pump of this kind, which goes by the name of the Black Cow, from its being painted that color, and is said to yield more than all the rest of his dairy-stock put together. The price at which milk is sold to the retail vender, (who agrees with the cow-keeper for the produce of a certain number of cows, and takes upon himself the labor of milking them,) varies from 1s. 3d. to 1s. 10d. for eight quarts; which, taking it at the medium of 1s. 9d. gives a total of 278,906½. 5s. for the whole-sale price, and produces an annual expenditure, after the friendly assistance of the *Black Cow with a wooden tail*, of 697,265½. 12s. 6d.—a tolerably long milk score. Generally speaking, the cows used for the London Milk Market are of a large size, with short horns, and are distinguished by the name of Holder-ness cattle, from a district so called in the East Riding of Yorkshire. The population of London, including babies of every growth, amounts, in round numbers, to 1,500,000; so that each person, on the average, consumes annually ten gallons, three quarts, and nearly two pints of milk.—*Late English Paper.*

(From the New York Knickerbacker.)

RECIPE FOR MAKING SWEET-POTATO PUDDING.

This greasy mass of Chirography—"pah! how it smells,"—as the Dane says in his phenological lecture—what in the world can it contain? *Kitchen Lyrics*, No. 1, by Burns. Burns!—what! the bard of nature? or the prince of pastry cooks? Genius of Udel can it be the last! Ilast thou then, *grand chef de cuisine*, let thy thoughts wander from creaking jacks, from graining spits and sighing pans, to the pages of the Knickerbaker? Welcome, thrice welcome is this rare combination of the *utile cum dulce* which makes its way at once into the affections of every good house-wife.

Oh, bring me from far in a southern elime,

The sweetest potatoes that ever grew;

Such apples of earth as the old time

In its visions of prophecy envied the new.

And wash them with lady-like lily hands,

'Till they look as pure as the saffron light

That falls in the summer on fairy lands,

From the moon in the depth of a cloudless night.

And let them be next of their skins beguiled,

But tenderly strip off the earthly vest,

As if you were flaying a sleeping child,

And were cautious of breaking its gentle rest;

And let them be pulveriz'd next by the skill

Of the same white hands and the grater's power,

And a heaping up table-spoon five times fill

With the precious result of their golden flour,

Or boiling hot milk add a full quart cup;

And next with five eggs, in a separate bowl,

Beat five table spoonfuls of sugar up,

And stir them well in with the foaming white.

Add one table-spoonful of *eau de rose*,

Of salt a teaspoonful: and after these

Of butter and egg-sized morsel: and close

With a flavor of nutmeg, as much as you please.

Then bake it—'tis pudding—I pause at the name,

To reflect on the puddings of days that are past,

And the prospects of more, which aspiring to fame,

And failing, I've lost to go hungry to last.

(From the New England Farmer.)

ORCHARD GRASS.

Some difficulty having been experienced with Orchard Grass on account of the seed not growing well, it may be useful to mention an easy mode of preparing the seed so that it will come up and grow as well as any other grass seed. It is only to moisten the seed before sowing by spreading it, not very thin, on a floor, and with a watering pot sprinkle the seed pretty well, then mix all well together with a rake, if it does not appear damp enough, next day add more water, (the seed being light and chaffy it will absorb a good deal,) and immediately before sowing spread as much plaster of Paris as will bring it to a good state for sowing.

In this manner I prepared some and sowed with barley, and some alone, in an orchard, which all grew freely; part was sown with clover, for which it is an excellent companion, and part without. The hay from that part mixed with the clover was excellent, and much easier cured than clover alone, or mixed with timothy, or as you call it, herds grass. That without the clover was short, and did not produce much the first year, but now covers the ground completely, and looks likely to produce a large crop the present season. The great durability of this grass, and its known excellence for pasture, make it peculiarly valuable, and with the above precautions in sowing, it may be as easily raised as clover or other grass.

HUGH HARTSHORNE.

FOREIGN MARKETS.

LIVERPOOL COTTON MARKET, Friday, Jan. 11.

The import this week is 3715 bags, and the sales reach the high number of 34,210 bags, including 1000 Americans, 1000 Surats, and 500 Egyptians taken on speculation, at an advance of 4d. per lb. on Egyptians and common to fair quality of Americans, and at 1-8d. per lb. on Surats and Bahias. The Sea Islands at auction went off without spirit at previous prices, viz. 1230 Sea Islands at 10½d. to 15½d.; 250 stained do. 6d. to 10½d.; 11,800 Bowdels 6½d. to 7-3-8d.; 8080 N. Orleans 6½ to 8½d.; 3590 Alabama 6½d. to 7½d.

The sales on Saturday 12th, and Monday 14th, were 4500 bags, at former prices.

Jan. 12.—Turpentine is in very steady demand at 12s 3 a 12s 4. Tar. 13s. Tobacco is again in good demand. 150 bbls. Montreal pot ashes sold at 25s. a 27s. 6d. Pearls have declined, 28s. having been accepted.

The London and Liverpool Corn markets furnish nothing of interest.

LONDON MARKET, Jan. 15.

Cotton Wool.—On Friday, 9505 bales Surats were brought to auction, which sold readily in some instances at 1-8d. per lb. advance, also 215 bales N. Orleans taken in at 6½ a 6-3-8 per lb.; 100 bales Georgia at 53 a 61. E. I. and foreign Coffee continue but little inquired for, but holders seemed not inclined to accept lower prices.

For Carolina Rice there are no buyers. White Havana Sugar is without demand, brown is scarce.

Wool.—The public sale of Colonial and other Wool commenced on Thursday, and there was a numerous attendance of buyers, and the prices were fairly supported.

AGRICULTURE.

ON AGRICULTURAL EXHIBITIONS.

Mr. SMITH: *Lucky Hit Farm, near White Post, }
Frederick Co. Va. Feb. 26, 1883. }*

I exceedingly regret that it is so little in my power to reply to the call of your Eastern Shore correspondent, which I very sensibly feel merits an attention leading to the most important consequences. If it were answered in as comprehensive a way as its allusions should naturally prompt; and some of our talented citizens, whose minds have been duly exercised on the important connection of our agricultural prosperity with the moral and social virtues, which alone can make its practices truly interesting and honorable, I am sure they would not hesitate to undertake it. It would, however, be entirely out of character with the natural and honest feelings of the heart, if I were not to acknowledge that I have felt myself happy to be thus called upon; though at the same time, not a little ashamed to be so conspicuously summoned to aid in a cause so important as the improvement of sheep and wool (which by the by, requires more knowledge and experience than any of us possess to bring to a tolerable degree of perfection, simple as it may appear) and consider it upon the whole as a challenge to unite with some worthy and enterprising gentlemen of Maryland in a scheme to give a new impulse to the improvement of our stock generally; because I am well aware this appeal might have been made to many gentlemen far better qualified in various respects than I can ever be, though I am sorry to believe, they do not permit their light to shine before men, but hide it under a bushel; a circumstance to be as much deplored in the natural as in the moral world. To have selected this animal as the first subject of improvement, argues in my partial view of the matter no little taste in rural sentiment and opinion, but, which is of vastly more importance, looking forward as the present generation should do, to the interests of generations to come, in the special improvement of the wool bearing animal, to supply the numberless necessities, comforts, and elegancies of life, through the home industry of a large portion of our people, who can never be as advantageously employed for themselves or country in any other pursuit, and whose occupation will be multiplied in proportion to the varieties and improved qualities of wool. But, says the farmer and manufacturer, almost in despair, we shall have to give up the ship. No, never, let us go on diligently improving, if profits are but small, either in raising or manufacturing—spread and multiply manufactures rather than swell their amount at present in overgrown establishments. It would truly be a most desirable thing if it were possible for all parties to unite, in fixing the tariff at such a point as would sustain the industry of the country against the too great influence of foreign manufactures, and give us farmers a reasonable price for wool. But let us prize union first, profits second, and wealth least of all—to the rich capitalists of the north, and wealthy southern planters, let the following extract from Washington's valedictory be particularly addressed:

"But these considerations, however powerfully they address themselves to your sensibility, are greatly outweighed by those which apply more immediately to your interest. * * * Here every portion of our country finds the most commanding motives for carefully guarding and preserving the union of the whole.

"The north, in an unrestrained intercourse with the south, protected by the equal laws of a common government, finds in the productions of the latter, great additional resources of maritime and commercial enterprise, and precious materials of manufacturing industry. * * * The south in the same intercourse, benefiting by the same agency of the north, sees its agriculture grow, and its commerce expand." "While

then every part of our country thus feels an immediate and particular interest in union, all the parts combined cannot fail to find in their united mass of means and efforts, greater strength, greater resource, proportionally greater security from external danger, a less frequent interruption of their peace by foreign nations; and, what is of inestimable value, they must derive from union an exemption from those broils and wars between themselves, which so frequently afflict neighboring countries not tied together by the same government; which their own rivalry alone would be sufficient to produce, but which opposite foreign alliances, attachments, and intrigues, would stimulate and embitter. * * * Hence, likewise, they will avoid the necessity of those overgrown military establishments, which under any form of government are inauspicious to liberty, and which are to be regarded as particularly hostile to republican liberty. In this sense it is that your union ought to be considered as a main prop of your liberty, and that the love of the one ought to endear to you the preservation of the other.

"These considerations speak a persuasive language to every reflecting and virtuous mind, and exhibit the continuance of the union as a primary object of patriotic desire." I might go on to fill up the Farmer with these glorious effusions of patriotic truths and sentiments, which ought to be spread in extenso on the pages of every agricultural, political, and literary journal published in the United States, on the twenty-second of each revolving February.

We of our profession, Mr. Editor, are under peculiar obligations to contribute our part to preserve our union—hence the authority quoted of the greatest farmer we could ever boast of, and we add our little, to his great, on the immense importance of the south and west cherishing a fondness for the north, instead of indulging so many unfounded prejudices against her—if we have the gifts of nature in our favor; surely, by the dint of perseverance, art, and industry, she has greatly brought us in debt for her ingenuity in the many valuable works and useful inventions which conduce to our more substantial welfare. Where are the chief fountains of our general advancement to more perfect independence and happiness as a united people? Literature, arts, and useful inventions, all travel on from north to south—they spread throughout our land with ample testimony to their great importance—thousands of individuals are settled amongst us remarkable for their thrift and usefulness in various respects. We southerners should be willing to pay a generous contribution to the nursery of our future and more general independence, though never again, perhaps, a heavy tax for the promotion of any particular branch of American manufacture.

These observations are not foreign from the improvement of wool, a subject of such high, such extensive interest, may be well associated with the most elevated topics, and our Eastern Shore Farmer has thought proper to introduce his proposition for the improvement of sheep, through some of our greatest personages, Jackson, Clay and Wirt, the fair sex, and blooded horses—racehorses. While we venerate the former, and admire the ladies, aye, adore them, for the part they are acting in society, superadded to their native charms, we would exclude the latter, for ever, from all such company, because we seriously believe that our agriculture has been severely wounded by their countenance and encouragement, and our citizens demoralized beyond ordinary calculation—and we trust that the ladies in spite of the flattery and deeply laid enticements prepared for them, will hold fast to their integrity, and lend us every where, their powerful influence, not only in banishing the racehorse from our land, but every other game and sport which has a known tendency to dishonor God, and bring condemnation on our country. Some well written essays showing the deteriorating effects of racing upon the soil, and morals of our people, would greatly adorn the pages of the Farmer—an agricultural society would do well to present its brightest medal for

the best essay—a pair of Frederick sheep is offered for the best sent to the American Farmer.

It will afford me great pleasure to have the honor of being associated with gentlemen of Maryland, and elsewhere, in the improvement of agriculture and all our domestic animals, save the kind of horse specially intended for the turf, which I should consider an abuse of the funds of any agricultural society to increase the speed of.

The proposition of the Eastern Shore Farmer, seconded and amended by a Baltimore County Farmer and yourself, must attract the attention of many gentlemen of Maryland and Virginia—I mention these states in particular, because they are so seriously deficient in the improvement of stock generally, and I may include the more southern and western, the result principally of excessive grain cultivation, a deteriorating habit to be traced to a cause far beyond an immediate or ordinary cure, but which in itself may be remedied by the adoption of prudent rules and principles, as clearly demonstrable as any other plain facts, viz. that much less land will produce more grain under a state of improvement, with proportionably less capital, and a small improved stock, instead of many miserable objects called cattle, sheep, hogs, &c. An examination, argument, and report on this, and other subjects closely pertaining to it, from a convocation of zealous and intelligent farmers from all quarters of our country, and spread throughout our population, could not fail of exciting a deep interest in its consideration and examination; eventuating, we would hope, in the reform of our agriculture, and the consequent benefit of our common country.

Accordingly, may I be permitted to respectfully suggest that the Trustees of the Maryland Society take this subject into serious consideration, and if in their better judgment, they can believe any possible good will flow out of it, let them call a convention of farmers to meet in Baltimore whenever they see fit—conventions are the order of the day, and we may venture to believe, that in the one proposed, there will be more *unanimity, less ambition and intrigue*, and at least as much usefulness, as there has been in our grand political meetings from time to time, which have received so much attention.

Conventions have been held on almost every other subject but that of agriculture—humble, retiring agriculture. It is very true that her votaries have been happy at home in the enjoyment of every domestic bliss; but rarely deriving any benefit from associations which would inevitably, through an interchange of experience and intelligent discussion, highly promote. A well devised scheme for the encouragement of agriculture (I mean rather for its correction and improvement) for we have a stimulus already in prices beyond our merits—the offspring of a combination of farmers, who from principle and conviction of its importance, would resolve to meet together for the purpose of devising and establishing, on the most permanent basis in their power, a system of rewards for the promotion of improvements in agriculture. Such an assemblage of farmers, no doubt, would be composed of men acting on the most liberal and generous principles, disarding as far as possible local views, and petty calculations, in toto; men who would be desirous of exhaling their country by measures and modes, hearing on mind as well as matter—on habits and morals, as well as practical agriculture. I would further suggest, sir, though I have already said too much, although too little, that our farmers who may have a prospect of attending such a meeting, if called, should all be prepared with some project to facilitate the labors of the occasion. My best respects to your Eastern Shore Farmer,* we shall now be better acquainted, as he has determined to reveal his name,

* I believe he is the gentleman who some months past did not agree with me in "toto" as to the effect of slavery on the soil—in due time we will agree in differing on that important point.

and let us know to whom we are indebted for the valuable communication several months since, on the advantages of a rotation of crops, and the present effort, I would almost say to resuscitate the cold ashes of our mother agriculture. I will leave the pleasure of desecrating on the numberless advantages to be derived from a convention of farmers in the city of Baltimore, (being a point well suited for meetings and exhibitions) to those who have more leisure and better qualifications, and would seriously invite remarks on the subject, as well as upon the probable and rational consequences flowing generally out of the consultations of a convention. Can we believe that a considerable association of intelligent practical farmers would ever meet together with any but the most serious purpose to devise ways and means for the better moral government of their estates and their improvement by every combined practical suggestion—can we doubt success in such a design? If farmers will but do justice to their dignified, useful, and honorable station, they will make some sacrifice of convenience to throw a light on their profession beneficial to man, grateful and honorable to their God.

One word to your Eastern Shore correspondent, and I am done.—Should this discussion terminate in favor of a call of farmers, and they in due time assemble, every regulation with regard to the establishment of a board or permanent society, &c. &c. would of course emanate from them; but should we not be so fortunate as to see something of the kind go into effect, then the suggestions of the Maryland farmers in relation to the improvement of stock of every description would no doubt be agreeable to all of us who take the least interest to them. But I would suggest that the reward for the best animals exhibited should be in a different way, proceeding from a reasonable subscription to be expended in medals, silver cups, &c. honorary articles which we can hang up in our houses, set on our tables, and leave to our children, who we must henceforth teach to love farming better than we have ever done. I cannot dissimble the great pleasure I have found in the Eastern Shore Farmer's dwelling so particularly on the improvement of sheep. Does he know the vast importance he may render his state by bringing from all parts of it, and from others, sheep by the half dozen, of the different breeds, to compare one with the other—does he know that this will be the most effectual way to improve wool, and that it will only require some experienced men to point out what crosses and changes will be likely to effect improvements to suit our domestic manufactures? this is a subject for pages, almost a volume, but we stop. He may suppose me most selfishly interested in joining issue with him on this special branch of improvement, but as far as honor and rewards go, in relation to an exhibition, on my part, of this favorite animal, he will excuse me, as I am determined never to be an obstacle to a liberal coming forward of all kinds, and from all quarters—though at some convenient period I may have the pleasure of joining friends with a portion of my domestic circle of animals. In conclusion, permit me to express a serious belief, that in the event of a convention being held in Baltimore, there will be subjects and matters in reference to agricultural improvements, proposed, discussed, settled and reported on, greatly propitious to the interests and happiness, honor and glory, of our beloved country—in arriving at such pleasing results, it is not meant to exclude the aid of the talents and reflections of any of our citizens, on the contrary, to invite, in a cause dear to every virtuous and enlightened mind.

Respectfully, yours, RICHARD K. MEADE.

EXTRAORDINARY PRODUCE.—One potato, about one pound weight, grown in the garden of Mr. Joseph Berry, Moira, and raised last week, produced 121 potatoes, weighing 60 lbs. upwards of 20 of which are larger than the one set. A sample has been sent to Mr. Farrell's seed shop.—*Belfast News Letter.*

AGRICULTURAL EXHIBITION.

Mr. SMITH: Talbot Co. Feb. 19, 1853.

In the last [45th] number of the American Farmer I was much gratified to see the remarks of your correspondent, "A Baltimore County Farmer" relative to my proposition in the preceding number; he may rest assured it is not my wish to exclude other gentlemen from partaking of the satisfaction of raising an agricultural ambition, which was truly my only desire, and therefore most cheerfully accede to his amendment; when first I suggested this new plan, I was fearful no person would think well of it, but when I find myself supported by you, and from an interchange of sentiments a few days past with some gentlemen of this county, I begin to hope an exhibition may be supported; and as all projects must have a beginning by some one, or by some means, I hope I shall be pardoned for extending my views, and proposing a scale to be observed in the formation of the exhibition subject to any amendment which may be proposed by your numerous correspondents so as to have a data fixed and determined. And should I extend the hand of gallantry and admit the industry and ingenuity of the fairest portion of society, which have so frequently and with so much credit adorned our cattle shows, I feel a degree of confidence I shall receive the approbation of the community, and I most earnestly solicit the ladies to extend their aid in decorating our exhibition with those beautiful fabrics which have heretofore produced so much lively admiration, and such great satisfaction to all who have had the pleasure of seeing them. On reflection I think we shall have a better exhibition by reducing the sweepstake as low as possible. Therefore as a commencement of my scale I will say:

1. For sheep as proposed in number 47, vol. xiv. a sweepstake of ten dollars in lieu of twenty.
2. For the best stallion calculated for the turf, a sweepstake of twenty dollars thrown in by each owner.
3. For the best stallion calculated for the saddle and harness, a sweepstake of ten dollars, by each owner.
4. For the best stallion calculated for the draught, a sweepstake of five dollars, by each owner.
5. For the best brood mare calculated for saddle and harness, a sweepstake of five dollars, by each owner.
6. For the best brood mare for draught, a sweepstake of five dollars, by each owner.
7. For the best saddle horse or mare, a sweepstake of five dollars, by each owner.
8. For the best bull, a sweepstake of five dollars, by each owner.
9. For the best milch cow, a sweepstake of three dollars, by each owner.
10. For the best pair of oxen, a sweepstake of five dollars, by each owner.
11. For the best corn fed beef, a sweepstake of three dollars, by each owner.
12. For the best grass fed beef, a sweepstake of three dollars, by each owner.
13. For the best mule, a sweepstake of five dollars, by each owner.
14. For the best jackass, a sweepstake of five dollars, by each owner.
15. For the best boar, a sweepstake of three dollars, by each owner.
16. For the best sow, a sweepstake of three dollars, by each owner.

17. For the greatest quantity of good merchantable Indian corn raised on one acre of ground, a sweepstake of five dollars, by each owner; a detailed account of planting, manuring, and cultivation shall be presented to the judges for publication; also it will be expected an accurate measurement of both crop, and land, to be laid before the judges from under the certificate of two respectable witnesses and attested by a justice of the peace.

18. For the best and most beautiful counterpane, a sweepstake of one dollar, by each owner.

19. For the best and most beautiful table cloth, a sweepstake of fifty cents, by each owner.

20. For the best and most beautiful piece of sheeting, a sweepstake of one dollar, by each owner.

21. For the best and most beautiful carpet, a sweepstake of one dollar, by each owner.

22. For the best and most beautiful hearth rug, a sweepstake of one dollar, by each owner.

23. For the best and most beautiful pair of foot stools, a sweepstake of 50 cents, by each owner.

24. For the best and most beautiful pair of yarn stockings, a sweepstake of twenty-five cents, by each owner.

25. For the best and most beautiful pair of cotton hose, a sweepstake of twenty-five cents, by each owner.

26. For the best and most beautiful pair of thread hose, a sweepstake of twenty-five cents, by each owner.

27. For the best piece of kersey, all wool, not less than ten yards, a sweepstake of one dollar, by each owner.

28. For the best piece of kersey, cotton and wool, not less than ten yards, a sweepstake of one dollar, by each owner.

It is to be particularly understood that no part of the domestic fabrics presented for exhibition to be spun or woven by machinery, but executed in the old and usual way—and farther no part of the carpets, rugs; or foot stools, is to be dyed by a *professed dyer*, or one who makes a trade of it, or to contain any portion of yarn taken from an imported carpet or rug, &c. but to be dyed in the family making the same. I am highly delighted with your suggestion that "we have a general sweepstakes" and hope the citizens of this, and any other state, will consider themselves at liberty to enter for each or any portion of the sweepstakes, and that each competitor will forward his or her name to you designating what sweepstake he or she may propose to contend for, and to commence with I shall send you the names of two ladies and one gentleman who propose to contend, which you will receive, and publish the number of names for each sweepstake, prior to the exhibition as you have proposed.

I do not feel altogether willing to change the time of holding the exhibition, because November is a more leisure time with the farmers, and they feel more disposed to indulge after the arduous fatigues of a summer's crop, and their pockets are generally better lined at that season of the year, and also those who exhibit sheep will be much harassed with the lambs in May; again more time will be given to the ladies to prepare their beautiful fabrics, and more time will be allowed for gentlemen to mature this novel proposition.

In regard to the plate in the hands of the trustees of the Agricultural Society, I differ from you, and your correspondent "A Baltimore County Farmer," as the proposition is altogether a sweepstake, and must be supported by those who exhibit stock and articles. I have understood that the trustees for the Eastern Shore have some plate on hand also, and I do not despair of seeing a cattle show again here, as well as on your shore, and should we succeed in the new plan it may be a stimulus. Indeed, sir, I do not see why a sweepstake exhibition should not be held on the Eastern Shore, in November twelve month: this I throw out for consideration. I feel indebted to you for your polite offer to aid and assist, and hope you will exert yourself to put the above in operation, and propose such amendments as may suggest themselves to you.

AN EASTERN SHORE FARMER.

There is an ox of the Durham short horned breed, now at Castle Howard, which has been fed by the Right Hon. the Earl of Carlisle, and which weighs 200 stone.

HORTICULTURE.

(From the Southern Agriculturist.)

ON THE CULTURE OF RHUBARB.

BY THE EDITOR.

Read before the Horticultural Society, Oct. 16th, 1832.

(Concluded from page 397.)

Although it is probable that several years will elapse before this plant will be in common use among us, yet it may not be amiss to give some directions for forcing it, for when it is known with what ease it may be grown, and our community have been made acquainted with its good qualities, we doubt not but that many will desire to have it at other than the regular seasons, especially as it can be obtained with very trifling expense of time or labor throughout the whole winter.

The following extract, (taken from the Encyclopedia of Gardening) is from the pen of T. A. Knight, Esq., and gives not only his mode of forcing, but also the rationale of the process.

"The root of every perennial herbaceous plant contains within itself, during winter, all the organizable matter, which it extends in the spring, in the formation of its first foliage and flower stems; and it requires neither food nor light to enable it to protrude these, but simply heat and water; and if the roots be removed entire, as soon as its leaves become lifeless, it will be found to vegetate, after being replanted, as strongly as it would have done, if it had retained its first position. These circumstances led me, in the last winter, to dig up the roots of many plants of the common rhubarb, (which I had raised from cuttings in the preceding spring,) and to place them in a few large and deep pots, each pot being made to receive as many as it would contain. Some fine sandy loam was then washed in, to fill entirely the interstices between the roots, the tops of which were so placed as to be level with each other, and about an inch below the surface of the mold in the pots, which were covered with other pots of the same size, inverted upon them: being then placed in a viary, (in a situation where nothing else could be made to thrive on account of want of light,) and being copiously applied with water, the plants vegetated rapidly and strongly; and from each pot I obtained three successive crops, the leaf stalks of the two first being crowded so closely as nearly to touch each other over the whole surface of the pots. As soon as the third crop of leaves was broken off, and a change of roots became necessary, those taken from the pots were planted in the open ground, their tops being covered about an inch deep with mold, and I have reason to believe, from present appearances, that they will live and recover strength, if given a year of rest to be fit for forcing again. Should they, however, perish, it is of very little consequence; as year-old roots, raised from cuttings or even from seeds, sown in autumn in rich soil, will be found sufficiently strong for use. The heat of a hot-bed, a kitchen, or other room, and, on the approach of spring, (probably at any period after the middle of January,) a cellar will afford a sufficiently high temperature; and the advantage in all cases will be that of obtaining from one foot of surface as much produce as in the natural state of growth of the plants would occupy twenty feet; and in the shady space of the viary or peach-house, not applicable to other purposes, and without incurring any additional expense in fuel, or doing injury to the soil, a succession of abundant crops may be raised."

In the garden of the London Horticultural Society, the following process is followed:

"The seed is sown in rich soil the beginning of April. The plants are allowed sufficient room to attain a considerable size during the summer, and in autumn, when they have begun to leave off growing, they are taken up and potted in pots not much larger than what are sufficient to hold the roots, and two,

three, or more, put in a pot according to its size. They are then placed in a shady situation, till they are removed to the forcing house. This is, perhaps, as easy a mode of growing and forcing rhubarb as in any practice. A great advantage of raising the plants from seed is, that the roots being more like those of carrots than the roots of plants obtained by division, several of them can be got into one pot; the buds are also stronger."

It is not, however, necessary to place them either in vineries, hot-houses, or hot-beds, the little heat required to force them is obtained readily by other means. Perhaps the most simple plan, and at the same time, equally as good as most others, is to take up the plants and pack them (as stated above) in boxes. These boxes to be placed in succession in rooms having a temperature of from 55 to 60 degrees, which is amply sufficient. The kitchen, perhaps, will be found the most eligible place. If taken up in December, the leaves will be fit for use in February, and a box brought in every three weeks will afford a regular supply. When the forcing is over, the roots should be kept "under cover of long litter or manure" until March, when they may be divided by a sharp knife, (taking care to preserve a bud to each piece,) and planted out in a shady situation. The strongest of these roots will be fit to force again the ensuing winter, but the weaker plants should be left for another season.

Some, however, may not be willing to take up their plants, fearing that they might be lost by this treatment. There does not appear to be much danger of this, yet it is as well to know, that they may be forced, with very little trouble, and without disturbing the roots. The mode of procedure is simply to cover the roots where they grow with boxes, half barrels, or any hollow vessel which are large enough, and pile fresh manure around, the heat from which will soon cause the plants to vegetate vigorously. Three crops of leaves may be thus obtained, after which they should be left alone, to recover and be protected from the influence of cold weather, which might otherwise seriously injure them. A succession may be obtained by placing the covering and manure in succession over the plants. Other modes are mentioned in various works which we have by us, but these being the most simple, and at the same time as efficacious, the time of the Society will not be taken up with an account of them.

The information we have given will be amply sufficient, we hope, to enable any one desirous of cultivating the rhubarb, to proceed. This plant is well worthy of a place in every garden. It not only affords a delightful addition to our dessert, but it possesses the advantage of coming into use at a time when nothing else can be procured, and being moreover peculiarly wholesome, a property possessed by none of the green fruits usually employed for that purpose. The medicinal qualities which it possesses, even when made up into tarts or conserves, ought of itself, to recommend it to a very favorable notice. In the *Southern Agriculturist*, will be found a letter from the editor of the *American Farmer*, stating that he had cured an infant daughter of the *cholera infantum*, when little or no hopes were entertained of her recovery, merely by giving her occasionally a small piece of rhubarb tart. At page 553, of the same volume, is a very notice, by the same gentleman, of the excellence of rhubarb tarts and conserves as a cure for cases of common diarrhea. In this he states, "that all subsequent trials of the rhubarb in diarrhea either in children or adults, have proved wonderfully efficacious. During the present summer our children have had frequent attacks of summer complaints, and we have applied the usual remedies with very little effect. In each instance we have been obliged to resort to the rhubarb at last. We have ventured to make these trials of the usual remedies, the more ef-

fectually to put both them and the rhubarb to a fair test, and feel authorised by numerous instances of its success, and by the absence of a single failure, to say that the rhubarb conserve is unequalled as a remedy for common bowel complaints in children and adults. A tea spoonful of the conserve spread on a piece of dry bread, is the best mode of administering it, and of this, children are very fond."

It is not, however, owing to its medicinal qualities that it is now in such great request, but (as we have several times had occasion to remark) its delightful flavor and peculiar earliness, has made it a favorite wherever known. Of the great demand which exists in London for the leaves of this plant some idea may be formed from the following extract taken from the report of the Covent Garden Market for June, 1832. "Rhubarb which has for some years past been largely cultivated, it still a subject of increasing interest, and more extensively in demand than ever: on the 5th of May, no less than eight entire wagon loads packed in bulk, with an equal quantity in smaller proportions were brought in and sold in this market alone: one cultivator, Mr. Myatt, of New Cross, Deptford, had three wagon loads, he has, I believe, nearly twenty acres in culture." From this extract it will be seen that a quantity equal to sixteen wagon loads were brought in and sold in one day, and in one market alone.

In conclusion, we cannot refrain from recommending its introduction and culture on every plantation. Its earliness will insure a supply for dessert from March to June from the open ground, and if it be raised in the manner pointed out, it may be forced so as to have it all times throughout the winter, commencing as early as the planter returns to his plantation.

Note.—Since reading the above before the Horticultural Society, we have taken up the plants raised last summer and the one previous, for the purpose of removing them. We found that all grown in the low ground, had not formed a spindle shaped root like the carrot, which we believe is always the case when grown on light soil, but had spread and divided into several smaller roots. One of the plants two years old measured five inches in diameter across the crown. Several of those raised last summer measured from two to two and a half inches diameter. We know not to what size they grow in cooler climates during the first and second years, but judging from such as we have seen sent out to this place, we are inclined to believe that these will bear a comparison with them. They are decidedly larger than any we have seen from the north, and sufficiently so to warrant the belief that the rhubarb may be successfully cultivated in the southern states.

January 22, 1833.

INSECTS IN PEAS.

Extract from an address before the Massachusetts Horticultural Society, by T. W. HARRIS, M. D.

"The pea is universally esteemed one of the most palatable of our vegetables. At its first appearance in the markets it commands a high price; and its first appearance on the table is not only an object of pride to the gardener, but of pleasure to the partaker. Few, however, while indulging in the luxury of early peas, are aware how many insects they unconsistently consume. When the pods are carefully examined, small, discolored spots may be seen within them, each one corresponding to a similar spot on the opposite pea. If this spot in the pea be opened, a minute, whitish grub or maggot will be discovered. It is the insect in its larva form, which lives upon the marrow of the pea, and arrives at its full size by the times that the pea becomes dry. It then bores a round hole quite to the hull, which, however, is left untouched, as is also the germ of the future sprout. In this hole the insect passes the pupa state, and survives the winter; at the expiration of which, its last change being completed, it has only to gnaw through

the thin hull, and make its exit, which frequently is not accomplished before the peas are committed to the ground for an early crop. Peas, thus affected, are denominated *buggy* by seedsmen and gardeners; and the little insects so often seen within them in the spring, are incorrectly called *bugs*; a term of reproach indiscriminately applied to many kinds of insects which have no resemblance to each other in appearance and habits. The pea, *bruchus pisi*, for such is its correct name, is a small beetle, a native of this continent, having been unknown in Europe before the discovery of America. Early in the spring, while the pods are young and tender, and the peas are just beginning to swell, it makes small perforations in the epidermis or thin skin of the pod, and deposits in each a minute egg. These eggs are always placed opposite to the peas, and the grubs, when hatched, soon penetrate the pod and bury themselves in the peas by holes so fine that they are hardly perceptible, and are soon closed. Sometimes every pea in a pod will be found to be thus inhabited; and the injury done by the pea *bruchus* has, in former times, been so great and universal as nearly to put an end to the cultivation of this vegetable. That it should prefer the prolific exotic pea to our indigenous, but less productive pulse, is not a matter of surprise, analogous facts being of common occurrence; but that for so many years a rational method for checking its ravages should not have been practised is somewhat remarkable. An exceedingly simple one is recommended by Deane, but to be successful should be universally adopted. It consists merely in keeping seed peas in tight vessels over one year before planting them. Latreille recommends submitting them to the heat of water at 67 degrees of Fahrenheit, by which the same results might be obtained; and if this was done just before the peas were to be put into the ground, they would then be in a state for immediate planting. The Baltimore oriole, or hangbird, is one of the natural enemies of the *bruchus*, whose larva it detects, picks from the green peas, and devours. How wonderful is the insects of this bird, which, untainted by experience, can detect the lurking culprit within the envelope of the pod and pea; and how much more wonderful that of the insect; for, as the welfare of its future progeny depends upon the succession of peas the ensuing season, the rostellum or sprout of the pea is never injured by the larva, and consequently the pulse will germinate, though deprived of a third of its substance.

(From the London Gardener's Magazine.)

UPON THE BENEFICIAL EFFECTS OF PROTECTING THE STEMS OF FRUIT TREES FROM FROSTS IN EARLY SPRING.

Circumstances have led Mr. Knight to believe, that whenever a very large portion of the well-organized blossoms of fruit trees falls off abortively in a moderately favorable season, the cause of the failure may generally be traced to some previous check which the motion and operation of the vital fluid of the tree has sustained. A severe frosty night, or very cold winds, during the barking season, is known to give such a check to the flow of sap in the oak tree, as to prevent it from being separated by the peelers till the return of milder weather.

"Neither the health of the tree, nor its foliage, nor its blossoms, appear to sustain any material injury by this sudden suspension of its functions; but the crop of acorns invariably fails. The apple and pear tree appear to be affected to the same extent by similar degrees of cold. Their blossoms, like those of the oak, often unfold perfectly well, and present the most healthy and vigorous character; and their pollen sheds freely. Their fruit also appears to set well; but the whole, or nearly the whole, falls off just at the period when its growth ought to commence. Some varieties of the apple and pear are

much more capable of bearing unfavorable weather than others, and even the oak trees present, in this respect, some dissimilarity of constitution.

"It is near the surface of the earth that frost, in the spring, operates more powerfully, and the unfolding buds of oak and ash trees, which are situated near the ground, are not unfrequently destroyed, whilst those of the more elevated branches escape injury; and hence arises, I think, a probability that some advantages may be derived from protecting the stems or larger branches of fruit trees, as far as practicable, from frost in spring."

In support of this conclusion, Mr. Knight refers to an apple tree, which having had its stem and part of its larger branches covered with evergreen trees, had borne a succession of crops of fruit; whilst other trees of the same variety, and growing contiguously in the same soil, but without having had their stems protected, had been wholly unproductive: and to a nectarine tree, which having sprung up from a seed accidentally in a plantation of laurels, had borne, as a standard tree, three successive crops of fruit. The possessor of the nectarine tree, with the intention of promoting its growth and health, cut away the laurel branches which surrounded its stem in the winter of 1823-4, and in the succeeding season not a single fruit was produced.

"Never having known an instance of a standard nectarine tree bearing fruit in a climate so unfavorable, I was led to expect that the variety possessed an extraordinary degree of hardness; but having inserted some buds of it into bearing branches upon the walls of my garden at Downton, in the autumn of 1822, I have not any reason to believe that its blossoms are at all more patient of cold than those of other seedling varieties of the nectarine."

A China rose, sheltered by the stem of a plant of Irish ivy, grew and flowered with more than common vigor; and Mr. Knight suggests, that as the ivy, when it has acquired a considerable age, and produced fruit-bearing branches, exhibits an independent form of growth, which these branches retain when detached, if these were intermixed with plants of the more delicate varieties of the Chinese rose, or other low deciduous and somewhat tender flowering shrubs, so that the stems of the latter would be covered in the winter, whilst their foliage would be fully exposed to the light in summer, it is probable that these might be successfully cultivated in situations where they would perish without such protection: and the evergreen foliage of the ivy plants in winter would be generally thought ornamental. Detached fruit-bearing branches of ivy readily emit roots, and the requisite kind of plants would therefore be easily obtained.

As a further experiment with reference to Mr. Knight's reasoning, we would suggest to such as have lately planted an orchard of standard trees, to clothe the stems and principal branches of half of them, during the months of March, April, and May, with loose bands of straw, and to observe the effects in comparison with the other half.

ANCIENT PLANTS FOUND WITH EGYPTIAN MUMMIES IN TOMBS.—A memoir has recently been read at the Medico Botanical Society on this subject, by M. Bonastre. It appears that fruit is frequently met with in Egyptian tombs, enclosed in baskets variously colored. One of these, the *Mimusops elengi*, is a proof of the great vicissitude to which Egypt has been exposed, for this vegetable has entirely disappeared from the soil. No botanical work yet published in that country makes mention of this plant; it is only found in the island of Amboine, and some of the isles of the Indian ocean. Myrrha and Bellium in large fragments are also found. The fruit of the Rhamnus lotus and that of the pine (*Pinus lotes*) have also been discovered in the same way, generally in votive baskets full of offerings.

RURAL ECONOMY.

(From the New York Farmer.)

GINGER FOR HEAVES IN HORSES.

As farriery is embraced in this work, I may add, that my old horse, who is now in his 20th year, has been cured of the disease called "heaves," by the use of ground ginger, a remedy recommended to me for the purpose. A table-spoonful was given to him daily, for several weeks, mixed in his mess of Indian meal and cut straw. The horse has been troubled with weezing and a hard cough for a year or two, and had lost flesh so much that he seemed to have nearly finished his term of service. Since the use of the powdered ginger he has become quite fat, and appears to be years younger and in good spirits.

T. C.

To COLOR BLACK.—Few parts of domestic economy are more deficient than the art of coloring; I therefore propose to give some directions.

To color black, say for ten pound of yarn, take one pound of nut-galls in coarse powder, five pounds of logwood, put into a kettle with 10 or 12 gallons of water. Take 3 lbs. of copperas, 2 ozs. of blue vitriol dissolved in a gallon or two of water, and wet the yarn in this mordant for half an hour, then hang it in the air. After the coloring stuff has been boiled about an hour, take out the wood and pour on hot water, letting it drain in the kettle through a sieve or cloth. As soon as all the coloring matter is exhausted, the wood may be thrown away, and the tea boiled down about one-third. Then the yarn may be put in, while the tea is hot, and let it remain about one hour, when it should be taken out, and hung for half an hour in the air, and the tea boiled down again, and the yarn put in for half an hour longer, taken out and hung in the air, and so alternately put in and taken out several times, and the copperas and vitriol water added to the coloring stuff. By this process a standing black may be obtained.—N. Y. Farmer.

MISCELLANEOUS.

EXTRACTS FROM COL. J. P. HAMILTON'S TRAVELS IN COLOMBIA.

October 30th. A remarkable fall in an excellent marine barometer, indicated an approaching storm; great consultations among the [naval] officers, the result of which was to make immediately for Terbay. This attempt to get into Terbay was baffled by a calm. The admiral then determined to keep the sea, and proceed to the westward. Apparently much anxiety was felt by the captain as to some shoals off the Start point. The top-gallant-yards up and down several times, calm, rain, and heavy swell continued until ten at night, when the gale came on with the suddenness of lightning, and before midnight the main and mizen top-masts were blown over the side, although the sails were furled; both quarter boats were also washed away, and the cabin window and dead lights burst in by the sea. I think this gale lasted six and thirty hours. I never had such a rolling before or since. At one time it blew so hard that no sailor would venture aloft to cut away some wreck, until the second lieutenant, a fine gallant young officer, led the way. P. 3—5.

We dined one day with Mr. Wilson, [of Kingston in Jamaica] where I saw for the first time, on his table, a vegetable, produced on the top of a palm tree which grows to a great height: the tree is cut down to get the cabbage. P. 10.

I purchased of a watch-maker [in Kingston] an anti-bear quite tame, which came from the coast of Honduras. In going in a boat, Jaoko (the anti-bear) displayed his adroitness in catching fish; for several small ones having leaped into the boat, he seized them

in a moment, and devoured them greedily. We found Jacko most useful in the boat in killing cockroaches, white ants, spiders, &c. These insects incessantly attack your provisions, and are particularly troublesome. Unluckily, Jacko had an aversion to all the canine race; consequently perpetual war was waged between him and Don, [a pointer], which at last proved fatal to Jacko, as I was obliged to have him killed, although with great regret. Soon after my arrival at Bagota, he had nearly terminated Don's career, by a desperate bite in the neck. *I have read in some authors that the ant-bear has no teeth*, my old pointer would tell them a different story—they bite as sharp as a badger, and their feet are armed with long strong claws. There was a desperate fight between Don and the ant-bear, in which Don got a bad bite in the tail. P. 11—43.

The toucan abounds in the province of Saint Martha and Cartagena, toward the coast, but I never saw them in the interior of Colombia. It is generally supposed that the *toucan* lives on fruits, seeds, &c. and is not carnivorous; but a bird seller in London assured me he had one alive for nearly a year and a half, which he allowed to howl about his shop, till he found he had devoured a bullfinch, which had escaped from his cage, and from that time he frequently fed him upon dead birds. P. 37.

Col. Campbell shot a beautiful milk-white heron or egret: on the back of this bird the feathers are found which adorn the heads of our European beauties. P. 40, 41.

Col. C. killed a green parrot with scarlet feathers in the wings, which proved to be fat and tender. P. 46.

The banks of the Magdalena were beautiful from the profusion of scarlet and lilac colored flowers of the *convolvulus* kind, with which it was adorned. P. 47.

The wild cotton tree hanging over the banks of the river, with the pods full of cotton, ripe and bursting, had a novel and pretty appearance. We also observed the *vanilla*, the production of a creeping plant entwining itself round the forest trees, which had a pleasing effect. This plant thrives best in a moist soil; and a good deal of it was formerly sent to Spain, and made use of to give a flavor to chocolate. P. 50.

Col. C. shot a bird with a fine plumage, called the *amarillo* or *yellow breast*; the back was of a rich chocolate color, breast bright yellow, and a beautiful scarlet tuft on its head, about the size of a black bird; this bird has a pleasing note. P. 51.

In several places we observed a strong circular bamboo fence, erected on the margin of the river to protect the inhabitants from the alligators, which abound in such numbers in the Magdalena. Notwithstanding these precautions, they now and then contrive to carry off a person. We heard at Barranca that a mulatto girl about 14 years of age, had been seized by the wrist, while in the act of filling her pitcher in the river, and carried under water by one of these creatures. P. 52.

As we were gliding up the river with a nice breeze, near the shore, I shot a *guma*, four feet and a half long, from nose to tail, of the lizard kind. The patron [captain] told us it was considered a delicacy for the table, and it was therefore delivered to the cook to fricassee for dinner, with sauce blanche, and we thought it excellent, being fat and as white as a chicken. We shot three large scarlet macaws. P. 53.

We saw this day for the first time the *cabeza negra*, or black head. It is a very large bird, standing full 4 feet in height, the body white, head black, and neck bright scarlet. It was too shy to get within shot. We also saw green paroquets, which make much noise in flying. P. 63.

Near the village of Plato we counted thirty alligators, swimming within two or three hundred yards of our boat; in general their heads only appear above water. P. 63.

The natives are fond of dogs, and they are numerous in all their villages; their barking in the night keeps at a distance the jaguar or spotted tiger, the red

leopard, and other beasts of prey. I was told that canine madness was not known in South America. P. 66.

We called in the evening on the second alcalde, or magistrate, and purchased three tiger skins. The wearer of one of them had carried off a broad mace of the alcalde's, some time before; and in the attack with this ferocious animal, three of his best dogs were killed. The hunters of the jaguars sometimes kill them with ball, but generally they prefer for this purpose a lance seven feet in length, with a broad iron head, sharp at the point and sides. The alcalde mentioned that one large tiger had swum across the river, about three months before, at day light, and came into the middle of the village; the dogs gave the alarm by their incessant barking, when he turned out with his slaves, attacked the intruder, and killed him. The jaguars and caymans are mortal enemies, and the former wages perpetual war against the latter. Whenever the tiger surprises the alligator asleep on the hot sand bank, he attacks him under the tail, which is soft and fat, and the most vulnerable part; and such is his alarm, he will hardly move, or make resistance; but if the alligator gets his enemy into the water, his more peculiar element, then the tables are turned, and the tiger is generally drowned and devoured. Being aware of this inferiority, when he has to cross a river, he sets up a tremendous howl on its bank previously to entering the water, with the hope of scaring the alligator to a distance. P. 68, 69.

Mompox: the grapes and pine-apples are very fine. The people keep in cages birds called *tropical*, black and orange, the nightingales of this country; they are very dear when they sing well. I gave sixteen dollars for one, but its note was beautiful. The bird died afterwards at Bagota, as the climate was too cold for it. The heat is great at Mompox, from its low situation: thermometer 22° of January, 2 o'clock P. M. 88°. P. 77.

Here we observed a curious way of raising cabbage, onions, &c. A frame work was made of strong bamboos, five feet high from the ground; on this a compost of fine earth and a small quantity of manure is placed, and in this they sow the cabbage and onion seed; the plants we saw were large and fine, and the raising of vegetables in this way has these advantages, that neither pigs nor poultry can get at them: the beds are watered in the morning and evening. P. 75.

On our shooting excursion this day, we saw one of the *scarlet pelicans* in a situation to be approached near enough to be shot, by going round considerably, and walking through some high hedges and long grass, which our anxiety to get the bird determined us to do.

As we were creeping quietly through the cover to get at him, we heard all of a sudden a great noise, and rustling in the hedges, and at once concluded that a jaguar or tiger had sprung up, and was coming to attack us. We instantly cocked our guns, prepared to make as good a defence as we could, but were agreeably disappointed at catching a glimpse of a wild hare that rushed past us, having been disturbed from her shady retreat. P. 83.

The river is full of alligators, who made such a noise all night by splashing and clashing in their pursuit after the fish, as to prevent our sleeping, our cots being close to the river. P. 84.

Col. C. had this day the luck to shoot a *cabeza negra*, which we had been long endeavoring to do. The bird was only winged, and we had considerable trouble in catching him, as he appeared to run nearly as quick as an ostrich, and made a determined resistance with his long bill. This curious bird measured ten feet from one tip of the wing to the other, and six feet from the beak to the toe, standing five feet high, no feathers on the neck, merely a rough skin. He walks in so stately a manner that he has acquired the name of "el capitan" the captain. P. 84, 85.

Two patos reals, or royal wild ducks, swam across this arm of the river, with a young brood. They are

half as big again as our tame ducks, and the alligators never molest them. P. 88.

We slept this night on a sand bank; and in a few hours were roused from our slumbers by the [men] who announced the near approach of a *thunderstorm*. These tidings occasioned a general scramble—the storm in a tropical climate being much more tremendous than those in Europe. The rain falls in torrents, the lightning forked and vivid, and the thunder rolls along the distant mountains in awful sublimity. P. 88.

Slept at a solitary house, surrounded with extensive plantations of chocolate and plantain trees. The cocoa pods on the trees resemble the small rough melon, and are of a dark red color, and full of small beans, from which they make the chocolate. We purchased here a curious small sling with hard clay balls, used for the purpose of killing the macaws, parrots, and paroquets, when they make their attack on the cocoa and plantain fruit. P. 95, 96.

We were much amused by the monkeys, who were playing all sorts of gambols in the trees, hanging by their tails, while the young monkeys clung fast to the backs of the old ones. P. 97.

We saw a great many pendulous nests of the birds called *oreopendulas*: their structure is very curious, and they hang down from the extremities of the branches, having a small hole in the side. This pendulous construction is a defence against the monkeys, who are fond of eggs and small birds. The *oreopendulum* is gregarious. The trunks of the trees on which these birds build are so large, and the bark so remarkably smooth, having no branches nearer the ground than 50 or 40 feet, that none of the boatmen could clamber out to cut off a branch, and let a nest or two fall. The *oreopendulum* is a black bird with an orange colored tail; some [all] of them the size of a small dove. P. 98.

I was told a curious history of the alligator at the period of hatching her eggs; that she devours all the young ones that do not run into the river, the immediate use of their legs being the only means of securing any maternal affection. P. 102.

[A more probable version of this story is, that the male eats all he can catch.]

As I was sitting in front of our house about ten in the evening—all in bed but myself—I saw a man on the roof of the next house, endeavoring to strike something with a lance. I looked up and saw a large monkey on the thatch. This person told me that Mr. Jacko came frequently at night to steal the poultry, and had already carried off several fowls. The monkey was too active for his enemy, and escaped. P. 103—4.

In the evening we saw on an island some hundreds of paroquets and paroquets, which came to roost in some low wild fig trees, all in pairs; and before these birds closed their eyes for the night, they made, during half an hour, as much noise as a large rookery. I counted thirty pair of paroquets at the same time in the air. P. 105.

We heard here a small bird called the *bugis*, with gay plumage, the size of a black bird, which has a soft melancholy note, and sings the whole night. P. 107.

Honda, capital of the province of Mariquita.—A gentleman gave me a small quantity of cinnamon, which had been gathered from trees growing wild in this province. Until now I was not aware that this valuable spice was to be found in South America. P. 111.

The mule path was tremendously bad, and generally ran along the edge of steep precipices. Travellers soon lose their fears on finding what extraordinary animals the mules of this country are. They are well trained to ascend and descend these mountains and rugged precipices. As they proceed they fix their small feet with great caution and firmness in the holes made in the path by constantly passing and repassing. Their exertions in going up winding flights of steps, or descending, are quite surprising: they sel-

dom trip, and your only security is to leave the bridle loose on the mule's neck, and let him pick his own path, which he does in a masterly manner, never attempting to walk straight, but always following the winding of the paths most patiently. A good mule is invaluable in this country. P. 115-16.

I saw a young man in the house with his arm in a sling, and on inquiring the cause, he told me his arm had been badly wounded by a jaguar or tiger, about a month before. He was walking in a forest when suddenly his dog began to bark at something in a dark cavern overhanging with bushes, and on his approaching the entrance, a tiger rushed on him with great force, seizing his right arm; in the struggle both fell over a small precipice; he then lost his senses, but on recovering found the tiger had left him, and that his arm was bleeding and shockingly lacerated. We expressed our surprise that the jaguar had not killed him, when he shrugged up his shoulders, and remarked "The blessed virgin had saved him." P. 116-17.

After my return [at Guaduas] Col. Acosta showed me a curious animal, called the *two-toed sloth*. It was about the size of a small badger; color a dirty gray tinged with brown, two long curved claws on the fore legs, and three on the hind legs. Its movements were very slow, and apparently made with difficulty, but *tee dee not hear it whine or shriek* as if in pain when crawling along; it supported itself on its hind claws. The sloth is perfectly harmless, and lives on the foliage of trees, but it is altogether so ugly an animal, that I felt no desire to have it. P. 121-2.

(From the New York Farmer.)

THE MATRIMONIAL GARDEN.

Man is formed for social enjoyment, and if it be allowed that "it is not good for man to be alone," it is equally true that it is not good that woman should be alone; hence a union of interests indicates a union of persons for their mutual benefit. By this union a sort of seclusion from the rest of our species takes place; and as a garden is a retired apartment appropriated to culture and improvements, the married state may not be inaptly compared with it in many respects.

It is good and honorable for the human species prudently and cautiously to approach this delightful enclosure. Its entrance in general is extremely gay and glittering, being strewn with flowers of every hue and every fragrance calculated to charm the eye and please the taste; but they are not all so; and as there are many persons who may wish to enter this garden at some time or other, who are yet strangers to its various productions, their attention should be directed to the cultivation of those plants which are beneficial, and to the avoiding or rooting up of those which are injurious.

And first, let me caution adventurers in this garden not to dream of permanent happiness; if you should so dream, experience will soon make you wiser, as such happiness never existed but in visionary heads. If you are desirous that this garden should yield you all the bliss of which it is capable, you must take with you that excellent flower called GOOD HUMOR, which of all the flowers of nature is the most delicious and delicate; do not drop it or lose it, as many do soon after they enter the garden—it is a treasure that nothing can supply the loss of. When you get to the end of the first walk, which contains about thirty steps, commonly called *"the Honey Moon Path,"* you will see the garden open into a vast variety of views, and it is necessary to caution you to avoid many productions in them which are noxious, nauseous, and even fatal in their nature and tendency, especially to the ignorant and unwary. There is a low, small plant, which may be seen in almost every path, called INDIFFERENCE. This, though not perceived in the entrance, you will always know where it grows, by a certain coldness in the air which

surrounds it. Contrary to the nature of plants in general, this grows by cold and dies by warmth; whenever you perceive this change in the air, avoid the place as soon as you can. In the same path is often found that baneful flower called JEALOUSY, which I advise you never to look at, for it has the strange quality of smiting the eye that beholds it with a pain that is seldom or never got rid of. Jealousy is a deadly flower; it is the acorn of the garden, and has marred the happiness of thousands.

As you proceed you will meet with many little crooked paths. I advise you as a friend, never to go into them, for although at the entrance of each it is written in large letters, I AM RIGHT, if you do enter, and get to the end of them, you will find the true name to be PERVERSENESS. These crooked paths occasion endless disputes, and as it is difficult to make the crooked straight, it is better to avoid them altogether, lest, as it sometimes happens, a total separation be the consequence, and you take different paths the rest of your lives. Near this spot you will meet with a rough sturdy plant called OBSTINACY, which bears a hard knotty fruit, that never digests, and of course must injure the constitution; it even becomes fatal when taken in large quantities. Turn from it; avoid it, as you would the plague.

Just opposite to this grows that lovely and lively shrub called COMPLIANCE, which, though not always pleasant to the palate, is very salutary, and leaves a sweetness in the mouth; it is a most excellent shrub, and produces the most delicious fruit. Never be without a very large sprig in your hand; it will often be wanted as you go along, for you cannot be happy without it in any part of the garden.

In one of the principal compartments stands a very important plant called ECONOMY: it is of a thriving quality; cultivate this fine plant with all your care; it adorns and enriches at the same time. Many overlook it—some despise it—and others think that they shall never want it; it is generally overlooked in the gaiety and levity with which people enter this place, but the want of it is generally paid for with bitter repentance. There are two other plants of the same species which are very closely connected, called INDUSTRY and FRUGALITY, and I must take leave to tell you that, unless both the male and the female partake largely of their branches, very little success can be expected; in this they must both unite. Take care that you provide yourself and partner with a supply of each as soon as possible after you enter the garden.

There are two or three paths which run much into one another, and deserve the closest attention of the softer sex; I mean REGULARITY, EXACTNESS, and NEATNESS. Do not think as some do, that when you have once got into the garden you may be neglectful of these paths. Remember that your companion will see your neglect, which will affect his eye, and may alienate his heart. Enter on these departments then as soon as you enter the garden, and when you are once fairly in, you are in for life; the danger is, that if you do not get into them at an early period you will not find them afterwards. Near these walks is to be found that modest plant called HUMILITY:

It is the violet, "doom'd to blush unseen,
And shed its sweetness on the desert air."

It appears of little worth in itself, but when joined with other virtues, it adds a charm to life and spreads a fragrance around its wearer. Cultivate then, with all your care, this sweet little plant, and you will find it prevent the growth of all poisonous and noxious weeds.

Allow me also to drop a hint on the subject of cultivation as connected with propagation, as that most probably will be your employment in this garden sooner or later. Should you have the rearing of young plants, remember that they are frail in their nature, and liable to be destroyed by every blast, and will demand all your care and attention. Should you be

witness to a blast on its dawning beauties, Oh, how your fond heart will bleed with tenderness, affection, and sympathy! The young shoot will naturally twine around all the fibres of your frame. Should it live and thrive, spare no pains to "train it up in the way it should go." Weed it, water it, prune it; it will need all the cultivator's skill. Without this, many weeds and baneful plants will grow up with it, and blast your fondest hopes. Be ever mindful that this is a trust for which both parties are accountable. Without careful cultivation, what can you expect but the most luxuriant growth of unruly appetites, which, in time, will break forth in all manner of disgraceful irregularities? What, but that ANGER, like a prickly thorn, will arm the temper with an untractable moroseness? That PEEVISHNESS, like a stinging nettle, will render the conversation irksome and forbidding? That AVARICE, like some choking weed, will teach the fingers to gripe, and the hands to oppress? That REVENGE, like some poisonous plant, replete with baneful juices, will rankle in the breast, and meditate mischief to its neighbor? While unbribe LUSTS, like swarms of noisome insects, taint each rising thought, and render "every imagination of the heart only evil continually?" Such are the usual products of unrestrained nature! Such the furniture of the uncultivated mind?

By all means, then, pay due attention to culture! By suitable discipline clear the soil! By careful instruction implant the seeds of virtue! By skill and vigilance prune the unprofitable and over-luxuriant branches: "direct the young idea how to shoot!"—the wayward passions how to move. The mature man will then become the chief ornament of the garden. Around him CHARITY will breathe her sweets, and in his branches HOPE expand her blossoms. In him the personal virtues will display their graces, and the social ones their fruit—the sentiments become generous, the carriage endearing, the life useful, and the end happy and peaceful. T. BRIDGEMAN.

(From the Journal of Health.)

PORT WINE.

The eulogists of pure port wine may be a little startled at the following official statement of the entire amount of wine exported from Oporto:

In 1818, the Factory wine exported from Oporto amounted to 32,843 pipes; of this quantity 32,465 were consumed by Great Britain and her dependencies, leaving 378 pipes to supply all the rest of the world with pure port wine.

In 1819, the total quantity exported was 19,502 pipes, of which nearly the whole was for the supply of Great Britain.

In 1820, the quantity exported was 23,740 pipes; almost the whole went to supply Great Britain.

In 1821, 24,641 pipes; nearly the whole to Great Britain.

In 1822, 27,758 pipes; of which 27,470 were consumed by the English, leaving 288 pipes for the supply of all other nations.

In 1823, 23,578 pipes were exported; of which 23,208 were for the supply of England, leaving 370 for other nations.

In 1824, 19,164 pipes were the number exported, the same proportion being consumed by Great Britain.

In 1825, 40,524 pipes exported, of which 40,277 were for the supply of Great Britain, and 247 for other nations.

In 1826, 18,604 pipes exported; 18,310 to Great Britain, and the remaining 314 to other countries.

PORT WINE OF THE SHOPS.—The following is stated on unquestionable authority to be the composition, detected by analysis, of a bottle of the ordinary port wine of the shops. Spirits of wine, three ounces; elder, fourteen ounces; sugar, one and a half ounce; alum, two scruples; tartaric acid, one scruple; strong decoction of logwood, four ounces.

Prices Current in New York, February 23.
Beechnut, yellow, 18 a 20. *Cotton*, New Orleans, 11 a 13; Upland, 9 1/2 a 11 1/4; Alabama, 9 1/2 a 12. *Cotton Baggins*, Hemp, yd. 13 a 24 1/2; Flax, 13 a 14 1/2. *Flax*, American, 7 a 8. *Flaxseed*, 7 bush. clean, 15.25 a —; rough, 14.25 a 14.50. *Flour*, N. York, bbl. 5.50 a 5.75; Canal, 6.00 a 6.37; Balt. How'd st. 5.62 a 5.75; Rhd city mills, — a 6.50; country, 5.50 a —; Alexandria, 5.50 a 5.87; Fredricks', 5.50 a —; Peters', new, 5.50 a —; Rye flour, — a —; Indian meal, per bbl. 3.75 a —, per hhd. 17.00 a —. *Grain*, Wheat, North, — a —; Vir. — a 1.16; Rye, North, 83 a .85; Corn, Yel. North, .73 a .75; Barley, — a 1; Oats, South and North, — a —; Peas, white, dry, 1 bu. 5.00 a —; Beans, 7 bu. 8.00 a 9.50; *Provisions*, Beef, mess, 8.25 a 8.75; prime, 5.25 a 5.75; cargo, — a —; Pork, mess, bbl. 12.50 a 13.50, prime, 11.00 a 11.25; Lard, 7 1/2 a 9.

LANCASHIRE GOOSEBERRY PLANTS.

Just received from England the following choice assortment of the celebrated Lancashire Gooseberry Plants, which are offered to the public with confidence in their superior quality, their genuineness, and fine condition. They will be packed so as to be carried safely any distance; but those that have to go far would better be ordered without delay. The following is a list of twenty-seven kinds:

WHITE FRUIT—Capper's Bonny Lass, Boardman's Smiling Beauty, Holden's White Muslin, Sampson's Queen Ann, Yates' Thrasher, Leigh's Topper.

YELLOW OR AMBER—Nelson's Waves, Hill's Royal Sovereign, Weedham's Delight, Large Golden Queen, Forbes' Golden Eagle, Sandiford British Favorite.

RED—Walker's Bank of England, Kisham's Fairmaid, Jolly Minor, Dean's Glory of England, Chadwick's Sportsman, Boardman's British Hero, Boardman's Prince Regent, Fletcher's Crown Regent, Milling's Crown Bob, Eckersley's Jolly Printer, Bell's Glorious, Hawthorne's Overall.

GREEN—Hopley's Shannon, Parkinson's Laurel, Allan's Glory of Ratcliff.

These plants have been carefully selected from the best sources by a competent person, and are truly fine.

Prices—Several of these varieties are sold from the gardens at from 50 cents to \$1 per plant, (they are ALL superior kinds), but I offer them as follows:

Purchasers may select at 40 cents each, or thirteen plants for \$5. When the selection is left to us we will send three plants for \$1, or sixteen for \$5. The number of each kind is very limited.

BUFFALO BERRY TREE OR SHEPHERDIA OF THE ROCKY MOUNTAINS.

When our friends send to us for Gooseberry Plants we can very conveniently pack with them one or more of these truly splendid trees, which, when in bearing, are literally loaded with delicious red berries, resembling the Antwerp Currant, and set as thickly on every twig as kernels of corn on the ear. Price \$1 each.

ANTWERP RASPBERRY AND CURRANT BUSHES—GENUINE.

Just received a few plants of the Red Antwerp Raspberry, best kind, at 25 cents each, or \$2.50 per dozen. Common kind usually known by this name, and bearing fine fruit, 12 1/2 cents each, \$1.25 per dozen, or \$8 per hundred.

Genuine Antwerp or Large Dutch Currants, 25 cents each, or \$2.50 per dozen.

Address I. I. HITCHCOCK,
American Farmer Office and Seed Store.

CHOICE MERCER POTATOES FOR SALE.

I can furnish a small quantity of Mercer Potatoes of superior quality for seed, at \$1 per bushel.

I. I. HITCHCOCK,
American Farmer Office and Seed Store.

SILKWORM EGGS

For sale at the American Farmer Office and Seed Store, at \$1 per thousand. They can be sent safely by mail if ordered immediately, before the weather becomes warm.

I. I. HITCHCOCK.

GRAPEVINES AND CUTTINGS.

For sale at the American Farmer Office and Seed Store, the following, which can be sent safely any distance:

ROOTED VINES.

Herbement's Madeira, two years old, 33 cents each, \$3.50 per dozen, or \$25 per hundred.

Isabella, very fine roots, two years old, 37 1/2 cts. each, or \$4.00 per dozen.

White Scuppernon, one year old, 25 cents each, or \$2.50 per dozen.

CUTTINGS.

Cunningham, finest native grape, both for wine and table, 12 1/2 cents each, \$1.25 per dozen, or \$8 per hundred.

Woodson, very fine do. same price.

[For description of these, see American Farmer, Vol. xiv. No. 33.]

Norton's Virginia Seedling, fine, same price.

Cuttings of the Isabella, Muscadell, and Golden Chascelas, 50 cents per dozen.

I. I. HITCHCOCK.

A FINE JACK FOR SALE.

The Subscriber is authorized to sell a fine Jack of the breed of the KNIGHT OF MALTA and ROYAL GIFT, about six years old; a very powerful animal, a sure foot getter, very gentle and easily managed. Price \$200.

Apply to I. I. HITCHCOCK,
American Farmer Office and Seed Store.

REMOVAL.

SINCLAIR & MOORE have removed their AGRICULTURAL REPOSITORY to the CORNER OF PRATT AND LIGHT STREETS, HEAD OF THE BASIN, where they offer for sale a general assortment of IMPLEMENTS, SEEDS, FRUIT TREES, &c. &c.

Feb. 22.

SINCLAIR AND MOORE'S NURSERY.

The Proprietors are about to clear a part of the ground, now occupied with white Mulberry Trees, in order to plant other articles, to which the exposure is peculiarly adapted, in consequence will dispose of them at very reduced prices;—after these are sold the regular price will be ten dollars per hundred for trees eight to ten feet high.

They also offer for sale at reduced prices an extensive assortment of Ornamental Trees and Shrubs, fifty kinds of hardy Rose Bushes, (among which is the much admired Greville,) double Albicans, Honeysuckles, Corcorus, Lilac, Snowberry and Buffalo Berry Trees, Chinese Balm, white flowering Horsechestnut, and silver leaved Maple, all of large size, (the latter is a beautiful shade tree,) large red and white Dutch Currant, red and white Antwerp and other Raspberry Bushes, Strawberry Plants assorted, (large plants raised carefully for sale,) white and black Walnut, Quinces assorted, Peach Trees, a large stock of very superior kinds, Apple, Plum, Pear, Cherry and Nectarine Trees, Grape Plants and Cuttings of several varieties, Asparagus and Hop Roots, and Thorns for hedging.

Apply at the Nursery, or at their store, corner of Pratt and Light streets.

Feb. 22.

FIELD AND GARDEN SEEDS, &c.

J. S. EASTMAN offers the following Seeds for sale, viz. CLOVER, TIMOTHY, MEADOW OAT GRASS, MILLET, LUCERNE, COW PEAS, LARGE YELLOW PUMPKIN, and EARLY WHITE CORN.

Also a general assortment of GARDEN SEEDS, and WHITE ONION SETS.

Likewise in store, a general assortment of AGRICULTURAL IMPLEMENTS, embracing almost every article in the farming line, which he will sell low for cash or approved city acceptances.

He must decline opening any new accounts, except with those who will be liberal customers, and can give good references; and all such accounts he expects to be promptly settled once a year; and those who have accounts standing on his books over one year, are desired to settle the same. All Grass Seeds must be considered cash. Liberal discounts will be made on all implements purchased by merchants and others to sell again.

Feb. 15.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—We make no alteration in any article of produce, there being no change whatever. There are very few sales of flour from stores, and the wagon price of Howard street remains at \$5.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 8.00 a 15.00; yellow and red, 9.00 a 15.00; yellow, 14.00 a 20.00.—Fine yellow, 18.00 a 25.00.—Virginia, 4.00 a —.—Rappahannock, 3.00 a 4.00.—Kentucky, 3.50 a 8.00. The inspections of the week comprise 13 hds. Ohio.

FLOUR—best white wheat family, \$6.75 a 7.25; super Howard-street, 5.12 1/2 a 5.25; city mills, 5.00 a —; city mills extra 5.12 1/2 a —.—CORN MEAL bbl. 3.50; GRAIN, best wheat, 1.00 a 1.03; white do 1.05 a 1.10; —Corn, white, 55 c 58, yellow, 55 a 58; —Rye, 70 a —; Oats, 40 a 41.—BEANS, 75 a 80.—PEAS, 65 a 70.—CLOVER-SEED 8.00 a —.—TIMOTHY, — a —.—ORCHARD GRASS 2.00 a 2.25.—Tall Meadow Oat Grass 2.00 a 2.50.—Herd's, 75 a 87 1/2.—Lucerne — a 37 1/2.—BARLEY, FLAXSEED 1.50 a 1.62.—COTTON, Va. 10 a 12.—Louis. 12 a 13.—Alab. 10 a 11 1/2.—Tenn. 10 a 12.—Car. 10 a 12; Upland 10 a 12.—WHISKY, hds. 1st p. 28 1/2 a —; 2nd 28 1/2 a 30.—WOOL, if washed, Prime or Saxony Fleeces 45 a 50; American Full Blood, 35 a 42; three quarters do, 33 a 38; half do, 30 a 33; quarter do, 28 a 30; common 25 a 28. Unwashed, Prime or Saxony Fleeces, 25 a 30; American Full Blood, 22 a 25; three quarters do, 20 a 22; half do, 18 a 20; quarter do 16 a 18; common, 16 a 18.

Hemp, Russia, 100, \$200 a 215; Country, dew-rotted, 6 to 7 lb. water-rotted 7 a 8.—Feathers, 37 a 38; Plaster Paris, per ton, 5.00 a —.—ground, 1.50 a —.—bbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 75.00 a 85.00.—Prime Beef on the hoof, 5.50 a 6.25.—Oak wood, 4.00 a 4.50; Hickory, 5.50 a 6.00; Pine, 2.25.

CONTENTS OF THIS NUMBER.

Editorial; Persian Tobacco, Mexican Tobacco, &c.—London Milk—Recipe for making Sweet Potato Pudding—Foreign Markets—Richard K. Meade on Agricultural Exhibitions; Premium offered for an Essay on Horseracing—Extraordinary Produce—Sweetstakes proposed for an Agricultural Exhibition, by an Eastern Shore Farmer—On the Culture of Rhubarb, by John D. Legare, Editor of the Southern Agriculturist, concluded—Insects in Peas; how to destroy them—Beneficial Effects of Protecting the stems of Fruit Trees from Frosts in Early Spring—Ancient Plants found with Egyptian Mummies in Tombs—Ginger for Heaves in Horses—To Color Black—Extracts from Col. J. P. Hamilton's Travels in Colombia—The Matrimonial Garden—Official Statement of Wine exported from Oporto—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

Special Agents for the American Farmer.

The following persons are authorized to act as Agents for the American Farmer in their several places of residence:

Boston,	John B. Russell, N. E. Farmer Office.
New-York,	J. H. Goorlie, at the Post Office.
Philadelphia,	D. & C. Landreth, 85 Chestnut street.
	E. Brynau, 101, Marble Court.
Washington, D. C.	J. Thompson.
	Coale & Co.
Petersburg, Va.	Thomas Coleman.
Raleigh, N. C.	Joseph Gale & Son.
Candee, S. C.	P. Thornton, Post Master.
New Orleans,	Wm. McKean.
Nashville, Tenn.	Eichmann & Norvell
Natchez, Miss.	Fredrick Staunton.
Port Gibson, Miss.	Passmore Hoopes.
Salem, N. J.	H. H. Elwell.
General Agent for the State of Maryland, T. B. Brenna.	

AGENTS FOR THE FARMER.—All postmasters are requested to act as agents for the Farmer, and to require a strict compliance by subscribers with the terms, especially the third item. They are authorized to retain one dollar for each new subscriber, and ten per cent. on all other collections. The list of special agents is published in the Farmer every third week. (Terms next week.)

DIRECTION OF LETTERS.—Address all BUSINESS letters concerning the Farmer, the store, or the agency, to the proprietor, "I. Irvine Hitchcock, Baltimore, Md."

Printed by J. D. Toy, corner of St. Paul and Market streets.

THE FARMER.

BALTIMORE, FRIDAY, MARCH 8, 1833.

CLOSE OF THE FOURTEENTH VOLUME.—The present number completes the fourteenth volume of the *American Farmer*; and we avail of the occasion to say that the volume now completed contains more valuable agricultural matter than any previous one. Indeed it comprises a complete code of agriculture, there being no one branch that is not treated of with method and care, besides numerous minor essays. We would particularly designate the essays of Mr. Herbenont on the culture of grapes and making wine; of Mr. Clay, on the culture of hemp; those on the culture and curing of tobacco, management of bees, the treatises on transplanting of trees; the agricultural excursion of the Editor of the *Southern Agriculturist*, &c. &c. We have just finished a careful reading of the whole volume, for the purpose of preparing a copious index, and have been astonished at the mass of valuable matter it contains, notwithstanding the same matter had previously been carefully read by us, piecemeal. Had this volume been presented to us as a book for our inspection, we should have considered it unrivalled in agricultural literature. True it does not become us to say this of our own labors, but on an occasion like the present, it may be allowable, particularly as we are not given to the fashionable habit of depreciating our own poor labors and humbling out pretensions in words, for the purpose of securing public approbation through the medium of affected modesty. We never could read with any other feeling than that of nauseating disgust, the public addresses of some of our public characters, in which their main object appears to be, if we take their word for it, to depict their utter incapacity for the station which they occupy. Now as we all know that all their efforts have been directed to the attainment of that very object, it is clearly apparent that their humble addresses are replete with any thing but sincerity, much less with commendable modesty, for he must be the very pink of modesty that would attempt to palm off such stuff upon an intelligent public. Therefore, knowing we have tried hard to do well for our employers, the subscribers to the *American Farmer*, and believing we have succeeded, we, of all persons in the world, have the best right to set forth our pretensions, and claim our reward in public approbation. So much for the past. As some of our subscribers will, of course, "cut our acquaintance," after receiving this number, we take the present occasion to say a few words for the future also. Our exertions to render the *American Farmer* a valuable code of agriculture, will not be relaxed; but on the contrary, considerably increased, as our attention is now more exclusively directed to it. Therefore, those who intend to discontinue their subscriptions, may console themselves with the reflection that, though they may be deprived of it, others will continue to reap a rich harvest from the labors of the *American Farmer*.

The publisher requests us to hint very modestly, to those who continue in arrears for subscriptions, that "France wants money and must have it," as was said by one in days gone by. Now we, who scarcely ever think of the dirty dross of the mine, who feed on the bread of imagination, and drink of the dew drops of vaporish dreams, are very much astonished to hear that our publisher cannot get along without money; and much more so that our subscribers, who partake of our ethereal repast with us occasionally, should think so much of the vile dust as to withhold it from him. Lacking, we should be all anxiety to get the cumbersome trash from our gossamer pockets, wherein we never yet could endure any thing but emptiness! Give the publisher his money, good sirs, and get rid of the troublesome stuff, we beg of you; for never man yet felt comfortable under a pressure of money.

Give a copious index, and a title page to the volume will accompany the next number.

(From the *Bellefonte Patriot and Farmers' Journal*.)

SUNFLOWER OIL.

TO THE EDITOR OF THE "AMERICAN FARMER."

Sir,—It is doubtless known to you, that the article linseed oil, a very important article of consumption in every section of our country, has, within a few years, greatly advanced in price, and, strange to tell, has actually been imported in considerable quantities from England, and carried far into the interior.

It is also known to you, sir, that an oil has been expressed from the seeds of the sunflower, which, to a limited extent, has been used as a substitute for linseed oil.

The object of the writer in addressing you, is to ask you to communicate through the medium of the *American Farmer*, replies to the following queries, viz.

1. Has the oil obtained from the seeds of the sunflower been found valuable to the painter and other artists, as a substitute for linseed oil.

2. Is the expression of the oil effected by the same machinery, and by the same process used for the expressing of linseed oil?

3. What is the average quantity of seed produced on an acre of ground, and what the quantity of oil yielded by the bushel of seed?

4. What is the quality of the soil best suited for the growth of the sunflower, and what the mode of culture?

5. Is it your opinion that the cultivation of the sunflower, would prove profitable to the agriculturist?

By replying to these questions, and furnishing such additional information on this subject as you may think proper, you would confer a benefit on

THE PUBLIC.

The information called for in the above queries, has repeatedly been laid before the public, through the medium of our columns; nevertheless we do not hesitate to recur to a subject of so much interest even at the hazard of incurring censure for repetition. It is indeed a most strange incident that linseed oil is imported from the very country to which we export so large a quantity of flaxseed. Probably this may be accounted for in the same way that we account for the fact, that, though we raise more cotton than any country on the globe, we require high protective duties to prevent our importing the goods made from it. It is the cheapness of labor in foreign countries that enables them to pay the expense of transporting our raw materials and to sell us the manufactured articles cheaper than we can make them ourselves.

We proceed to answer the queries in their regular order, without repeating them.

1st. Yes. It has been tried, and found to answer effectually all the purposes to which linseed is usually applied. In point it is superior to linseed, drying much sooner and imparting a gloss to the paint not attainable from linseed.

2nd. The expression of the oil is effected by the same machinery, and the same process used for expressing linseed oil; but the seed must first be passed through other machinery for the purpose of *hulling it*. Charles A. Barnitz, Esq. of York, Pa. invented a machine a few years ago for hulling the seed, and has it now in operation at his oil mill in the precincts of that village. By the aid of that machine he obtains double the quantity of oil from the seed and renders it of a quality very superior to that formerly obtained from sunflower seed. A complete machine will cost about three hundred dollars, including the patent right. Mr. Barnitz will sell rights, and give all information on the subject to those who address him for the purpose.

3d. From twenty to seventy-five bushels of seed may be produced from an acre, according to the quality of the soil—the average on good ground adapted to corn is fifty bushels. A bushel of the seed yields one gallon of oil, by Mr. Barnitz's machinery and process, three quarts cold pressed, and one quart hot pressed.

4th. Good corn land is adapted to the growth of the sunflower, and in proportion to its produce of corn will be its yield of sunflower seed. The mode of culture is the same as that of corn.

5th. We have no doubt that the cultivation of the sunflower would prove profitable to the agriculturist. An acre of ground will yield more sunflower seed than corn with the same labor and expense; a bushel of sunflower seed is worth more than a bushel of corn. But, (for there is a *but* in all new things), the improved machinery for expressing the oil, must first be erected and accessible to the farmer, for there is yet no market for the seed in the cities as there is for corn and flaxseed.

We beg leave to state a few more particulars, not called for by the above queries, it is true, but which will serve to illustrate the subject still further. The oil cake is an excellent article of horsefeed, and for this purpose will nearly pay the expense of expressing the oil; consequently the farmer will get nearly a gallon of oil for every bushel of seed, when mills shall be erected for the purpose; but if he erects machinery, and crushes his own seed, the oil cake will more than pay for the labor and the interest on the cost of the machinery; he will then of course have a gallon of oil for every bushel of seed. Sunflower oil, for all the purposes to which linseed oil is applied, is worth at least as much as linseed—it is worth at least a dollar a gallon. But inasmuch as it may be applied to other purposes, it is much more valuable than the latter. As a substitute for olive oil, for table use, it has no equal. For three years past we have used it on our table exclusively, and prefer it to the best sweet oil. It is also equal to sweet oil for all medical purposes. For lamps also it is excellent; fully equal to sperm oil, except that the lamps require trimming more frequently. It has the advantage, as lamp oil, of not being offensive, no disagreeable odor arising from its burning. Therefore, sunflower oil may not only be substituted for linseed oil, but for sperm and olive; and by aid of the proper machinery, it can be produced for half the cost of either.

DEATH OF RICHARD K. MEADE, ESQ.

The following obituary notice will be read with melancholy interest by every reader of the *American Farmer*. American agriculturists have sustained a loss in the death of Mr. Meade not easily supplied. Indeed the sheep husbandry of the middle and western states, particularly, has lost its most active and most successful patron. Individually, we have lost a warm friend, as well as an able coadjutor in our professional labors.

Died, at Lucky-hit Farm, Frederick County, (Va.) on Tuesday the 26th ult. RICHARD KIDDER MEADE, in the 50th year of his age. On the morning of the 26th our friend was in the enjoyment of his usual health. At 12 o'clock he repaired to the meeting-house, at the White Post, and with a fervor of zeal peculiar to himself, was prepared to take an active part in the proceedings of a temperance society, which he himself had been greatly instrumental in forming a few months previous, and to the success of which he seemed determined to devote the energies of his mind and body. The society being organized, the President read some very beautiful and appropriate extracts from the addresses of Judge CRANCH and others, selected for the occasion by our departed friend; he held in his hand a paper containing many valuable resolutions, which he himself had drawn up, and which he intended to offer with suitable remarks; but, appalling to relate! when his brother, Bishop MEADE, inquired for his resolutions, he turned upon him a countenance and features shockingly marred by paralysis. Medical aid was immediately obtained, and he was carried home. A partial paralysis was then succeeded by apoplexy, and a few minutes before 5 o'clock he expired.

AGRICULTURE.

(From the Virginia Farmer.)

THE FIRE-SIDE REFLECTIONS OF A BUCKINGHAM FARMER—ON AGRICULTURE.

December 10, 1832.

Our ancestors came to this country, to acquire good lands and realize independent fortunes—to obtain the first object was easy, but the attainment of the second, required activity and labor. Extensive and unclaimed forests, a virgin soil of great fertility and a congenial climate, admonished our forefathers, that the cultivation of tobacco would be profitable. Land being abundant and cheap, it was not to be expected, that an enlightened system of agriculture would prevail, and but little effort was made to improve or preserve the fertility of the soil. To clear the forests, make tobacco, so long as the land would produce the article, then plant corn, plough it up hill and down, and in a few years convert the field into a common, was, in short, the practice of our ancestors. When land could, as then, be purchased for a trifle, they perhaps did not act very unwisely. Men of intelligence and wealth entrusted the management of their estates to overseers, and those in middle life, instead of superintending their own farms, obeyed the dictates of vanity, and they too employed overseers. Thus to a great extent, the land and labor of the country, were under the control and supervision of a class, (I do not mean all, as there are honorable exceptions,) who were then, and are now, as ignorant and self-conceited, as they are avaricious and obstinate. Each succeeding generation, unmindful of the fact, that population was increasing, and that land would necessarily appreciate in value, reverencing the habits and usages of the previous one, pertinaciously adhering to the same system, and deriving no instruction from the improvements of other countries, or the sad experience of past times has persisted in this plan of exterminating the forest and devastating one of the fairest portions of the civilized world. Now that our farms seathed with gulleys and studded with pine thickets and presenting other indications of poverty, our citizens becoming dissatisfied with the state, because they cannot go on to make tobacco, corn, and wheat, as heretofore—are lasting evidences of the impropriety of our management—the almost entire change in the aspect of our land and situation, in connection with the great importance of an alteration in the mode of conducting our agricultural affairs, calls for mature reflection.—The system, that at one time might have been profitable and called for by the situation of the country, inasmuch as the land was mostly in woods and selling for a mere trifle, may be ruinous under a different state of circumstances. Whether our situation in an agricultural point of view, and the objects to which our attention should be called, are not materially different from what they might justly be considered some time back, I shall leave to others more more fully to discuss, but that this is a critical and important crisis to the planters and farmers generally, and those whose interests are intimately connected with, and must participate in their good or bad condition, is so apparent, that I think few will be disposed to question the assertion, much less to attempt its refutation.

The present depressed condition of the state, is attributed to a variety of causes, by different persons—one will charge it to the tariff—one to the banks—another to the want of roads and canals—a fourth to tobacco-making—and a fifth to slavery—but very few will own, (I know none that have,) that they are or have been amongst the many causes, or even connected therewith. It is almost always ascribed to something, or some one else. That all these causes have had more or less effect, I shall not attempt to disprove, but as it is more easy generally, to give a theory than

to prove one to be correct, I shall content myself, by stating my views on the subject; which are as follows:—Is it not much more reasonable to attribute by far the greater part of our grievances and misfortunes, to our own bad management in reference to agricultural matters, and to the fact that men of talents and wealth, are, and have been, too much disposed to exchange the simplicity and "otium cum dignitate" of the farmer, for the intrigues of office, and the allotments of political distinction; as well as to the custom of estimating their wealth more by the quantity of land and number of slaves, than by the fertility of the one, or the profitable employment of the other? We all know that the lower class in society, are the higher—let the latter be negligent, luxurious, and reckless—giving to a third or fourth person to do, what they should personally attend to—manifest an aversion to engage, actively, in agricultural pursuits—leave their farms and domestic concerns, in the hands of ignorant agents, with every inducement to conduct business entirely with a view to present profit, regardless of future consequences—and it would require no great length of time for the same spirit to pervade society generally—and the consequence would be, that the same state of things would be induced, as we have at present. But suppose a different course to be pursued by the better informed and more wealthy people, and that they had not suffered themselves to be idle spectators, on the one hand, or aspiring politicians on the other. (I mean in the general)—and, that they had acted the part of good stewards over the commonwealth, and have taken as much interest in teaching by example in the field, and with the ploughshare, as on the floor of legislation. Would it be an overstrained deduction, to infer in that case, that the condition of the state, would be the very reverse of what it is, at this time—Probably with a high degree of agricultural improvement, we would have been enabled to have retained our population, increased our wealth and standing in the union, and by our thrifty condition attracting talents from one quarter and wealth from another, Virginia might have been spared the reflection, much less the mortification, of being jeered about her declension from the high stand, she once occupied in this republic. Of one fact there can be but little doubt, that with all the advantages in the world, we need never calculate on succeeding well, without good management, economy and personal attention to business, and this is equally as true when applied to farming, as to other concerns of life—but with these latter requisites in conjunction with our other advantages, we can achieve wonders and combat successfully, a host of opposing elements. I know some farmers, who go to the bank for money—some who supply their families in foreign goods—others far removed from improved roads and canals—and others who own many slaves and make tobacco—all have been and are improving their estates, and accumulating wealth by judicious management and wise economy, as fast as most prudent men need wish, notwithstanding all these drawbacks.

In giving my views, however, I do not intend to assume, that the opinions of others are wrong, and my own only, true—it is enough for me, to indulge in a little speculation, ending in the conviction, that whether the disease has been ascribed to the proper causes or not, that one fact is undoubtedly true, that our country is far from being in a prosperous condition. With this conviction, I am not very solicitous to know the causes, which produced this decline—while the evil is apparent and demands a prompt and efficient remedy. Individuals can, by a combination of efforts applied to different pursuits, all more or less converging to one grand object, do much towards relieving the state from its difficulties. That system which, in adding to individual wealth and happiness, will equally promote national prosperity, without legislative interference, eminently deserves a thorough consideration—and the more especially when the fact is so notorious, that the people prefer a plain and cheap

government, and one that will interfere as little as possible, in the control and regulation of their labor.

An observing eye, in glancing over the state, though it may see much to criticize and to deplore—yet must perceive, that in our agricultural operations, a revolution has commenced and is progressing, which if vigorously prosecuted for a few years, will materially improve its appearance. Taking this for granted, may we not expect, that with the aid of our talented men, a judicious development of our physical advantages, and a proper application of our domestic energies, we would be able yet, to obtain that high degree of perfection, in an agricultural point of view, to which our climate and soil entitle us. A great poet remarks, that "there is a tide in the affairs of men, which, when taken at the flood, leads on to fortune," and now, that the current is changing, it is much to be hoped, that Virginians generally, would redouble their efforts, and by their conduct proclaim, that if the "Old Dominion" does not overcome her embarrassments and stand "first amongst the foremost," that she shall go down, with colors nailed to the mast. Let us only come to the determination, and by our acts evince our desire to carry on an agricultural reform. Let us, by holding out inducements, endeavor to attract public attention to the subject. Let the farmers convince their sons, that honor and wealth can be as successfully obtained in agricultural pursuits, as in either of the learned professions. Let the farmers read and profit by the experience of other countries and other times—let them have their clubs or societies and *agricultural papers*, and who would be so sceptical, as not to be convinced with all these assurances, that our march would be onward?

As I have indulged in the flattering assertion, that a change in our farming business, is taking place for the better, it may not be amiss to cite some of the evidences upon which I ground my belief—several of which I will now briefly mention:—A planter and farmer in our vicinity who conducts business on a very large scale, is now setting us in the management of his farms, a useful and valuable example, and so far as he is concerned, it is highly profitable, while it gives full scope to an industry and sagacity, of which but few can boast. Strangers would be astonished at his rapid progress annually, in improving his farms, by manuring largely, clovering and plastering, in connection with skilful management, while at the same time, very large crops are made.

He has given a practical illustration of the fact, that an extensive and judicious system of improvement, is by no means incompatible with great annual profits; and that the expense and labor of improving, is amply repaid by the additional productiveness and increased value of the land. Another neighbor is devoting a portion of his time and capital, to raising the most improved breeds of cows and sheep—and I dare say, that no one who has seen his stock can think them unworthy of the attention either of the proprietor, or of the public. The introduction of such animals will be highly advantageous to our section of the state, as well as creditable to the liberality and enterprise of the intelligent and worthy gentleman, under whose auspices they were introduced. A third gentleman has been for several years past, enjoying all of the luxuries, which a spacious garden, containing a very great number and variety of the most choice fruits and vegetables, selected from all quarters of the union, can afford. It is true, his garden could not be compared either with a green-house establishment, exhibiting splendid trifles, and foreign plants of every latitude, fantastically arranged to please the eye or regale the senses, or with Prince's noted collection, but it is such an establishment as would be a valuable appendage to any farm, indicating at the same time the good sense and taste of the proprietor. Such persons as those above alluded to, combine the "utile et dulce," or to give it a farmer's version, they can *work and talk* too. They have done, and will do more towards advancing our permanent interests, than a small

host of pseudo politicians; and the public countenance should make it manifest, that such evidences of good management and laudable enterprise, though they may not elicit songs of praise, yet that they are viewed with great satisfaction.

I have heard many very good planters say, they had rather improve a piece of tolerable land, than clear the same quantity even for tobacco. Now this, a few years ago, would have been thought rather singular, but it seems we are now finding out, that it costs about the same labor to make good land first rate, that it does to clear and prepare the like quantity for cultivation. This I consider a great point gained. Our cultivation is better than when I could first recollect—we have less surface work, less ploughing up and down hills—but we are deficient in many things yet—that is about the depth of turning lands—the propriety of breaking all lands deep—the advantages of coulters, and the best time and method of preparing lands for different crops—also, the most expeditious and judicious method of making manure—whether it would not answer as well to use most articles as manures previous to their undergoing partial decomposition in the farm pens, and whether a top dressing, or the usual way of using manures, is most advantageous? The plan of having farms divided into from 4 to 5 fields, and a more frequent rotation of crops, seems to be more generally pursued. A rotation of crops, I have no doubt, could be carried to a much greater extent, and with greater profit, than most persons are willing to believe. Many instances have been recorded, of fields being cultivated in various crops in quick succession, and of their rapidly improving. Our farmers would do well to investigate this subject. Probably almost as much depends on a quick and varied succession of crops, as on skillful cultivation or manuring. To ascertain in our climate and soil, what crops succeed best after each other, is not unworthy of notice, as we have all seen more or less of its effect, and it may not be unreasonable to suppose, that some crops would be to their successors almost as a coat of manure, by the superior condition in which they leave the ground for their propagation. The propriety of cultivating less land, and of having that good, is, I think, daily gaining ground, and in fact most of us appear for a long time, to have thought, that to make crops, a great deal of land must be cultivated, even if it was rich, but if poor, then an enormous quantity. We seemed to have lost sight of our reason, and to look only at the land and the crop we wished to get, without taking into consideration the labor and the best plan of applying that to produce what we wanted. Most persons are willing to admit, that a small crop well worked, is better than a large one half worked, or that one acre of rich land will produce as much as two of common. Now would it not be best in good land to lessen the crop, and to spend a part of the labor which would be used in the cultivation of two acres of poor land, and make one rich, and then get the crop? Suppose, for example, you take fields instead of acres—say a farm with 4 fields, subdivided into 8—say you improve one of these small fields every year, in 8 years your farm would be rich—then you could go on to double and treble what you formerly made.

It is true, in the commencement, these things will be on a small scale, but every year they are gaining, and this annual addition will increase so rapidly, that before many years have past by, a person's means of improving will, comparatively speaking, be almost without limit. We all remember a sum in arithmetic, about a smith's undertaking to shoe a horse, for the first nail, a certain price was to be given, and for every other nail, the price was to be doubled, and the prodigious sum it amounted to. Apply this to a judicious method of improvement, and I dare say, it will not be very deceptive—if the result would not be so great, it would at least be most astonishing. The great barrier, which prevents most persons from readily giving into this plan, is their not having matters

so arranged, as to be able, with tolerable convenience, to make a commencement. This it is true, will at first require some additional labor, and a little extra expense—but it is not most wise at this particular juncture, in the management of our affairs, to take a prospective view and conduct them accordingly, and lay aside for a season our great eagerness for present profits—the more especially as it is very questionable whether our ideas about present profits are not based more in imagination, originating from the distorted medium through which we view the improving system, than upon the facts which some farmers are illustrating, or the logical deductions of distinguished agriculturists? Would not some of our farmers, who have many laborers, and a large quantity of poor land, do better to subtract a part of the former from their usual plantation employments, and have them engaged in improving their farms? That some capital at all times can be profitably employed in improving, but few will dispute, and we all know that a great deal of labor is yearly expended without anything like an adequate profit, on account of our lands being poor—and it is equally well known, that labor is as cheap here, if not cheaper, than in most of the states—and it is also equally as plain, that if our lands were rich and productive, that this state would be the first choice of most persons, much less Virginians—and that our lands would sell as high as any in the union.

Now with all these facts before us, does it not appear as clear as midday, that this is the most suitable time to alter our operations—and that improvements can be made here at as little cost, and with as much expectation of profit, as any where in the union? Is it not as praiseworthy and as profitable to convert barren wastes into verdant fields, as to fell the lofty forest, and to expose its virgin soil to rude cultivation for a few years—then to neglect, and finally to ruin? That man is considered more deserving, who makes a fortune, than he who squanders one—if this is true in money matters, it is much more so when applied to agriculture. A man who enriches sterile fields, and causes them to yield abundant crops, in doing so, adds materially to the general stock of wealth—more, in my opinion, than one who hoards up money—but the one who ruins a piece of land, does a public injury, and is much more to be reprehended, than the spendthrift who spends his fortune—because in the latter case, the money only changes hands, whereas in the former, the soil passes away, and no one is benefited by the change.

Agriculture can be made to flourish either by directly aiding and patronizing it—and as a consequence, manufactures, commerce, &c. would follow in its wake) or indirectly by making internal communications, building up cities and manufacturing establishments. But does it not appear most reasonable to have the materials in possession, or in other words to have produced the crops, before we determine whether they shall be sent to market on such and such rail-road or canal—or go to subsidize this or that manufacturing community or commercial city? The other has the semblance at least of accomplishing the thing backwards, and this is plain, because agriculture is usually considered the great pivot, upon which commerce and manufactures teem, and without it, they could not exist but to a very limited extent, inasmuch as their other resources are only secondary—therefore it being the most important, ought to be the first subject to call our attention. But circumstanced as we are, it may be best, all things considered, to effect the object by combining the indirect with the direct means—in that event, we could certainly calculate on accomplishing our views, and that, too, in the shortest period. It can be aided directly, by getting up societies for that purpose, and this I think would be a very efficient mode, and be more particularly as it is the order of the day to do most things either by societies, or conventions. It could be aided most powerfully by our intelligent and wealthy men—let them study the subject, as it is

practised to the north, and in Europe, and by skillful men of this state—let them make experiments, introduce the different improvements in utensils, cultivation, seed, stock, &c. and last, though not least, let them inform the public of the results of experiments—of the various articles introduced into the state—are of all the new lights which time, practice, and information, under the guidance of strong heads and penetrating judgments, may develop.

A planter inspection has been essayed by our legislature, but unfortunately did not succeed. If the legislature could be convinced of the amount the farmers lose on that account, and of the great necessity of doing every thing in its power to fasten a spirit of improvement, as well as of availing itself of every opportunity of strengthening public confidence both in the means used and the end thereby to be obtained—it could hardly be doubted, but that inspections would be provided. Any of our practical and intelligent gentlemen would confer a favor on no inconsiderable portion of the farming community, by taking up the subject—stating its effect, and importance, and urging the legislature to give it a more mature consideration.

In concluding these reflections, allow me to say, that I have not the vanity to believe, that they will have much, if any effect, upon the minds of others; great would be my gratification, if any thing I have said, should induce older and abler men, to attempt the reformation of those abuses in our system of agriculture, which talent, energy, and perseverance combined, will infallibly accomplish. Let our intelligent and distinguished citizens, light the torch and lead the way, and who will doubt the issue—who will doubt but that the substantial yeomanry of our state will follow? Let them by precept and example, give a tone to public opinion, awaken the attention and call into exercise, the dormant powers of a people who possess the elements requisite to constitute a prosperous and powerful commonwealth. Let them endeavor to rescue an agricultural life from the odium which tavern politicians and "small-beer" lawyers have long been casting upon it, and convince young Virginians, that agricultural pursuits are conducive to health and virtue, and are not irreconcilable with expansion of mind, liberality of sentiment or devoted patriotism. E. W. H.

(From the New England Farmer.)

CULTURE OF CORN.

We are happy in the reception of the following valuable communication. As it relates to improvements in cultivating one of the most useful products which ever rewarded the skill and industry of the husbandman, we hope that the example of our correspondent will induce other practical and intelligent cultivators to state their methods of obtaining crops of the "prince of vegetables," worthy of being recorded in the annals of improved husbandry.

MR. EDITOR: Princeton, N. J. Jan. 28, 1833.

The idea has often occurred to me, while perusing your valuable paper, that farmers might be mutually benefited by making public through its columns their mode of cultivating the various crops which they grow upon their farms. Under that impression I have taken up my pen with the intention of devoting an evening in giving you my views and practice in cultivating a crop of Indian corn. Our soil, principally a sandy loam, in some places inclining a little to gravel with a clay subsoil, is well adapted to the growth of that plant, and we consider it the most profitable crop we cultivate. In the first place we prefer a stiff herds-grass sward, (by you called red-top, or herd-grass,) and clover; and experience has taught us that a field which has been pastured for two or three years is much more certain of producing a good crop of corn than one of the same quality which has been kept up and mowed for hay the same

length of time, that it is so with us does not admit of a doubt. We suppose it is owing in part to there being fewer insects in the pasture-land,—the droppings of the cattle adding more recent animal manure to the soil, and some suppose that the soil having been rendered more compact by the cattle trampling on it for two or three successive years facilitates the growth of the young plant by enabling it to push forth its roots more readily, as a certain degree of compactness in the soil appears to be necessary to enable a young plant to send forth its roots with facility. After trying various modes of preparing my land and tending the crop, I have for the last two or three years adopted the following, which appears to me to be the best I have yet practised.

I plough my land in the spring as early as convenient regulating the depth by the depth of the soil, after ploughing put on a roller drawn by one yoke of oxen and roll lengthwise the furrow, after rolling, harrow twice along the furrow, with a heavy harrow six feet wide with iron teeth well sharpened, drawn by two able horses. Then take a small plough, drawn either by one or two horses and form the field in ridges by throwing two furrows together 4½ feet distant from each other across the original furrows, being careful the plough does not reach the sward to turn it up; this cannot be well done without the ground has been previously rolled. I then furrow crosswise the ridges last formed, with a sled made for the purpose of two inch plank with three runners, each runner having a hole an inch in diameter bored in the bottom about equidistant from either end, and a peg of good hard wood driven therein to extend about one and one-half inches below the runner, the part extending below the runner to be twice the diameter of that inserted in it. With this machine, with a tongue or pole firmly attached to the middle runner, one man with two horses can with ease furrow more than twenty acres per day;—as he makes three furrows at once he must, consequently, furrow as fast as three men with ploughs, and it leaves the furrow in a fine state to drop the corn on, the grain not being so liable to scatter and roll as when dropped on the hard furrow made by a plough. The ground is then prepared for planting squares 4½ feet by 4 ft. and at this distance we put four grains or kernels in each hill. We find a small quantity of ashes on or in the hill of considerable advantage; it causes the young plant to come up strong and vigorous. When the corn has been up a few days, we put a small quantity of plaster to each hill, and commence harrowing with a small harrow 3½ feet wide, drawn by one horse, twice through each row one way, which prepares the ground handsomely for ploughing, and by which a careful hand can loosen the soil close to each hill. In a very few days after the harrowing is completed we commence ploughing by throwing a furrow from each row, ploughing as close to the corn as can be done without covering it up, leaving the middle or spaces between the furrows in that direction untouched, we then commence ploughing crosswise throwing the furrow to the corn unless it should be quite grassy, when we throw it from the corn as before, and in either case plough the middle or spaces left between the rows in the direction last ploughed out immediately, throwing half to each row. After laying in this state some days, we put on the small harrows again and harrow twice through each row, or rather space between the rows one way—in this state it may be left for some days untouched, unless there should be a heavy fall of rain, in which case experience has taught me that it is of decided advantage to the corn to stir the ground again with the harrow, that a free communication may be kept up between the soil and the atmosphere. As it is all important to the health of an individual that the pores of the skin should be kept open, so it appears to me with the soil, that the slight crust formed upon its surface after a rain, should be again broken with the harrow or some other implement.

When the ears are beginning to set I commence ploughing for the last time, throwing the furrows to the corn and leaving the spaces between the rows well ploughed out; by this system you will perceive the hoe is in a great measure dispensed with, and I can assure you I can keep my field as clean without it as you would wish to keep your garden, unless the spring should be very wet and warm when we occasionally find it necessary to use the hoe. One man and a horse will plough around (as we call it) five acres of corn in a day, or complete, by ploughing the middle out, 2½ acres. If there should be a considerable fall of rain or heavy showers soon after the last ploughing, I almost invariably put on my small harrows again, unless the crop should be too forward, but at the last harrowing we raise the corner teeth of the harrow (which is of a triangular form) so that near the hills they merely break the surface. When the corn is nearly ripe and, if possible, before it is killed by the frost, we cut it up by the ground and set it in stalks to be husked at leisure, the stalks are hauled and stacked at the barn-yard to be food through the winter months.

I have said nothing on the subject of applying manure to the crop, having already extended this communication to a much greater length than I intended when I commenced, and I fear it will occupy more space in your columns than it merits, but I leave it with you to publish the whole or any part thereof that you may consider calculated to promote the cause of agriculture. A. C.

(From the Albany Argus.)

ON THE SMUT IN WHEAT; AND THE CAUSE OF IT.
Addressed to Practical Farmers.

I have read many essays on the subject of the smut in wheat, and almost every writer has invented a new hypothesis as to the cause of it. In the refinement of their theories, (like philosophers in most other speculations,) they have, in my opinion, wholly "overstepped the modesty of nature," in their vague conjectures about "invisible insects," "vitiated principles in the air," "diseases arising from unseasonable cold and wet," and that "smut is of an animal nature," &c. &c. None of these theories or conjectures were satisfactory to my mind. But as I had not sufficient information to enable me to controvert them, or even with any propriety, to question them, until very recently, I have remained silent, hoping that some one more capable than myself, would undertake a series of observations and experiments, which might result in a discovery of the true cause. Not being aware that any one has done so, and believing that some facts in my possession relating to this evil, may be of service to intelligent farmers, (by drawing their attention to it if in no other respect,) I will proceed to state them. It is, perhaps, proper here to premise, that for several years previous to 1830, my wheat crop had been considerably affected by smut; but by letting it remain in the field, *uncut*, until it was thoroughly, or *dead* ripe, the smut grains became so perfectly dry, that when the crop was threshed, they were very nearly all broken. The dust was cleaned out by the fanning mill, leaving the wheat entirely free from the smut usually found sticking to the downy end of the grain. In the summer of 1830, finding that my wheat had an unusual quantity of smut in it, determined, if possible, to discover the cause of it. I commenced my operations by pulling up the stools of the smut wheat and examining the roots, in all cases (and I examined a very great number) I found the roots moldy and rotten, the outer covering or bark had evidently been eaten off by some worm or insect; but of what kind, I was unable to ascertain. After several days of fruitless examination, I accidentally discovered on one of the smut ears, a very small ash colored bug, about an eighth of an inch in length, something less than a line in diameter,

and about a line in height. It appeared to be busily employed in gnawing its way into the husk or chaff of one of the smut grains; in a few moments it perforated the chaff, and began to feed greedily on the smut grain within. My curiosity was excited by seeing that little insect feasting, with much apparent satisfaction, upon a substance that I had always supposed no animal in the world would eat. After some reflection, it occurred to me that many animals appeared to have an innate knowledge or instinct, which pointed out to them the best mode of preparing their food; and observing that this bug seemed to be feeding on its natural aliment, I determined to make some experiments for the purpose of ascertaining what agency (if any) this species of bug had in the production of smut. On a careful examination, I found one or more bugs on almost all the smut ears. A day or two afterwards, I took a small clean glass bottle, into which, after much care and trouble, I succeeded in putting three or four smut ears, with about a dozen bugs on them, a paper cover was then tied over the mouth of the bottle so closely that no insect could get in or out. The bugs continued to feed on the smut grains for about three weeks, when they all died. Thinking it probable that they had deposited their nits or eggs in the smut grains, I took the smut ears and dead bugs out of the bottle, cleaned it thoroughly, brushed the dirt off of the ears, and again put them into the bottle which was closed as before. Within about four weeks, I had a considerable number of young bugs hatched out, which immediately began to feed on the remaining smut grains; I kept them several weeks, until during autumn they all died also.

During the summer of 1831, I again found that my wheat was smutty, and repeated my experiments upon the same species of bug, of which I found great numbers on the smut ears. As in the preceding year, I put as many of the smut ears, with the bugs on them, in my bottle as it would conveniently hold: as before, the bugs all died in the course of three or four weeks. I then carefully examined many of the smut grains, in nearly all of which, I found a small maggot or worm; some were about an eighth of an inch in length, and in diameter, nearly as large as the parent bugs. Others were smaller, and several so small as to be scarcely visible to the naked eye. In some of the grains I could not discover any maggots, I presume because they were too minute to be visible to the naked eye, and I had no lens with which to examine them. The remaining smut grains were left untouched in the ears, put into the bottle again, and in two weeks I again had another full crop of bugs hatched out. These last, with the smut ears in which they were bred, I now have in my possession. A few days after I had found the bugs in my bottle were hatched out, I observed immense numbers of the "smut bug," (as I shall hereafter call them,) almost literally covering the floor and timber of the barn where my wheat was housed. There must have been millions of them. No doubt they had been bred in the smut ears carried in with the wheat. Within three or four weeks they all disappeared. Those which I saw in the fields, were extremely shy, and upon the slightest touch of the ear, fell to the ground, where they lay for several minutes perfectly still and inanimate, *feigning*, as it would seem, to be *dead*. Being so small, and in color approaching to that of the soil, (a *gravelly clay*.) it was very difficult to find them. After remaining quiet, however, for a few minutes, they ran up the stem of the smut wheat and resumed their feeding on the smut. They were quite active in *running*, but whether they ever did, or could *fly*, or not, I could not ascertain. Their *habits* appear to be similar to those of the *pea* bugs; and on a close examination I have found several smut beads, in which all the grains had evidently been perforated near the lower part, in the same manner that *pea* pods are found to have been perforated by the *pea* bugs.—The punctures were so minute as to be scarcely perceptible to the naked eye; but I do not doubt that

with a good glass, all the smut grains would have been found to have been perforated in the same manner.

Upon much reflection I have come to the conclusion, that smut wheat is the *natural* food of the bugs I have described. There may be, and very probably are, other vegetable substances upon which they sometimes subsist, when their natural aliment is not to be obtained. But as *conjectures* without *facts* upon which to found them are, oftentimes, worse than useless, I shall refrain from suggesting any at present, although (if convenient) I may hazard some in a future number.

That the smut is *not produced by a disease in the plant*, is, I think, conclusively proved by the facts I have stated. But if *additional* proofs were wanting, I have them, sufficiently strong as I should imagine to convince the most sceptical, in some circumstances which took place on my farm during the past year. I had, the previous year, taken much pains to procure seed wheat, to sow in one of my fields, which was perfectly free from smut. The land had been in clover about three years. It was ploughed three times, and was in excellent order. The wheat was sown in good season, and in the fall looked very well. It continued to grow finely until it cared out, when I discovered it to be more smutty than any other which I had on my farm, although there were *two* fields which had borne a smutty crop the previous year, that had been again sown. I was at a loss how to account for this, until I recollected that the *clean* field which I had sown with *clean* wheat, had been well *manured* a few weeks before the wheat was sown. The manure was taken from the barn yard where all the straw and chaff of the smutty crop of the previous year had been thrown when it was threshed out. The *smut grains* of the former crop were undoubtedly carried into the field with the manure. In these smut grains, I presume, the *maggots* of the smut bug existed in great numbers. And thence came the *insects* which smutted the wheat to so great a degree, as to amount, probably, to one-tenth part of the whole crop in the field. H.

(From the Genesee Farmer.)

MANGOLD WURZEL.

The cultivation of mangold wurzel as a field crop is but partially understood by the farmers in western New York, and as its valuable qualities and the profits attending it have been highly spoken of by our eastern agriculturists, we deem the subject of cultivation will be acceptable at this time.

The soil most suitable for this crop is the same as for Indian corn, and the produce, in favorable seasons and with good cultivation, may be set down at from six hundred to one thousand bushels per acre, each hundred bushels being considered equal to one ton of good hay for feeding to stock.

In preparing soil for mangold wurzel, deep ploughing is important. When planted in grounds which are moist, it should be on ridges, but where it is dry, it is found to succeed best when planted in drills without ridging.

The distance between the rows should not be less than two feet, and if it amounts to two and a half or three feet, it will be more convenient working between the rows with the plough. The distance at which the plants should stand from each other should be about six inches. Different cultivators have adopted different methods of planting the seed; some have made holes with a common dibble stick, others have opened a small drill, placing the seeds in it with the fingers; but perhaps the more perfect way is by passing a wheel on the line intended for the row, from the surface of which conical pegs of about one inch in length project at the distance from each other that the seeds are intended to be placed; into each of these holes two seeds should be deposited, and covered with fine earth. Planted as above, two pounds and a half of seed will be found sufficient for an acre.

In whatever way the seeds are planted, they

should be soaked two days in soft water before they are put in the ground, and some even declare that when soaked as many as four days it has proved advantageous.

We have ever cautioned our readers against departing entirely from their beaten track, or following after new theories, or going into the cultivation of new crops upon a large scale, until they have satisfied themselves of the profit which may be realized by an experiment upon a small scale. In the same manner we would recommend them to commence with mangold wurzel. One acre upon fair soil would be sufficient for the experiment, but as to the cost of raising the quantity produced, and their relative value compared with other food when fed to different kinds of stock.

That it is desirable to have a supply of green food for cattle during our severe winter months, every good farmer will allow, and to procure this at the least expense is certainly desirable. In England turnips are a cheap and profitable food for most kinds of stock, but the severity of our northern winters, together with the uncertainty of the crop, occasioned by insects, and the difficulty of preserving them after they are gathered, renders them unsuitable to be introduced as the principal green food where large stocks are fed.

From the quantity of saccharine matter contained in mangold wurzel, there is no doubt as to their nutritious qualities, but what effect constant feeding with them has upon beef or mutton, we are not prepared to say.

An English writer, in decanting upon the qualities of mangold wurzel, makes the following observations: "No edible root has yet been brought into use which has an affinity to the one under consideration, with respect to its imperishable properties. The white turnip is in March, entirely divested of its fattening power; the Swede in May becomes shriveled, and is almost refused by cattle; the potato after this time entirely sprouts away all its vigor, diminishes in bulk, and dries up; but not so the mangold wurzel. It is not only ready for use in the autumn, the winter and the spring, but may, if required, be continued with unabated advantage, and in the following autumn it will be found in full possession of its most valuable qualities, undiminished in weight, and abounding in saccharine juices."

A writer in the New England Farmer recommends them to be kept over and used in cases of drought in summer, and says, "They will continue sound and wholesome food until the coming of the next year's crop." If any of our western farmers have had sufficient experience with this crop to satisfy themselves as to the expediency of raising it, we should consider it a favor to ourselves and readers to receive a communication from them on the subject.

HORTICULTURE.

(From Poulson's American Daily Advertiser.)

DIALOGUE BETWEEN A CITY OFFICER AND A PRACTICAL HORTICULTURIST.

Horticulturist.—You ask me about trees; let me first know why you have thought it necessary to plant them in the enclosures within your city?

Officer.—Because they are the most beautiful and the least costly of any ornament that we could put there, and because they afford a delicious shade in the heat of the day.

Horticulturist.—And you may add, likewise, that by agitating the air, they cool it, thus dispersing much of those mephitic gases which are so injurious to animal respiration, a great quantity of which is absorbed by the trees themselves.

Officer.—When you select trees for the purpose of shade and ornament, is it done with a reference to their shape?

Horticulturist.—Yes, and likewise to the climate,

and to the particular aspect of the enclosure for which they are designed.

Officer.—Suppose that a public walk—such, for instance, as the Washington Square, in Walnut street—is to be ornamented with trees, what kinds should be planted, having regard to shade and symmetry of form?

Horticulturist.—It is immaterial, as all trees of the same latitude will grow in the same enclosure, provided they be planted at suitable distances, and provided they be not natives of swamps and low grounds. Even in this case, by a due attention to the wants of a plant, the magnolia can be made to flourish too.—There is a pleasing variety of beautiful trees in the enclosure you mention—Washington Square—and until within a year the trees grew naturally and rapidly.

Officer.—You say within a year—what has occurred to injure their shape and growth?

Horticulturist.—Injudicious pruning. *Horticulturists*—strictly so called—being aware of the intimate connection between the branches and the roots of a tree, are very careful in preventing injury to either. They never, therefore, trust the pruning of a valuable tree to unskillful hands.

Officer.—Do the roots of a tree correspond in number to the branches above?

Horticulturist.—Yes, generally they do, and this applies particularly to pines and large forest trees.—There is an economical correspondence between the numbers of the roots and branches of all slowly growing trees, and if either the roots or limbs be unwisely mutilated or lopped off, there will of course be some derangement in the circulation of sap.

Officer.—You do not then approve of the plan pursued at present by the man who has the superintendence of that beautiful enclosure called Washington Square.

Horticulturist.—Assuredly not—What! trim those fine trees in so shocking a manner! Deprive them of their strength, their beauty, their grace, their usefulness! You say that trees are planted for their shade and for ornament—what ornament is there in the trunk of a tree running up bare of branches to the height of thirty or forty feet, with a stunted tuft of small branches at the top? An instrument should never touch a tree in a public walk, excepting to take off the few crooks and downward growing branches which otherwise would interrupt the free passage of those who are walking under them.

Officer.—How high should trees be trimmed in such places, and on the side walks of pavements.

Horticulturist.—In the one case only so high as to prevent thoughtless people from catching at the branches, and on the side walks to a height sufficient to allow carriages to pass under the branches—thus far trimming or pruning is necessary. In the opinion of all people of refinement and cultivated taste, every tree should be suffered to grow as nature intended it should;—and as those who ornament the grounds of such public walks no doubt select the most perfect specimens of the kind, they should be left free to stretch out their limbs and expand according to their nature. Where is the propriety of planting an oak, if it is not known to be an oak? This tree grows slowly—it is an object of admiration to all foreigners—the idea of grandeur and strength, of battle and conquest, is associated with that noble tree—but trim it up as some of those trees are in Washington Square, and it is only valuable to the eyes of a boat builder.

Officer.—You observed that there were roots to correspond with the limbs above—if we cut off all the lower horizontal branches will not the sap intended for their use rise to those above, and accelerate their growth?

Horticulturist.—In rapidly growing trees, such as the pear, cherry, and peach tree, it does, but it is always attended with premature decay. This is not the place to discuss a question of such vital importance—I can only tell you briefly that a tree trimmed

up as the trees in question are, will soon perish, for independently of the poverty of its appearance, which has arisen from its cruel treatment, the limbs have been lopped off in so ignorant a manner, that the strongest principle of decay originates from the wounded stumps.

Officer.—You almost make me feel that a tree has life and sensibility.

Horticulturist.—And it has. The same process is going on in the vegetable as in the animal economy. If we divide an artery, the upper branches perish, and are absorbed, whilst the under ones, as capable as ever of absorbing the secretive matter, which is constantly present, no longer impel the fluids upwards, because the conducting medium is cut off. Their energies are therefore enfeebled, being confined to a small area, and they often become extinct.

Officer.—When the limb of a tree must necessarily be cut off, how should the operation be performed?

Horticulturist.—If the limb be unsightly or decayed, and you wish to see it replaced by another, it must be cut off only so closely to the trunk as to leave the *angular protuberance attached to the tree, which ring is the base of every limb and branch.* In this raised ring lies the secretive matter, which is to enlarge the organ of the embryo branch, the organs of which are incorporated with the pabulum within the ring. But competent as is this secretive matter to push out new limbs, it cannot do it to the extent of the original limb. The branches which protrude will be more in number, but less in size.

Officer.—But suppose that the limb disfigures the tree, by having none to correspond with it on the other side?

Horticulturist.—Then cut it off closely to the trunk, taking care to remove every particle of the swelling. The wound in this case will be a longer time in healing, but neither sucker nor branch will spring out from the edges.

Officer.—What is the reason of this?

Horticulturist.—I can scarcely explain the cause in so brief a manner as this, but my reverence for a tree, and although not a resident of your city, the pride which I take in all that tends to embellish it, induces me to make an attempt at explanation. If I can make myself understood, it may stop further mischief to those beautiful trees in Washington Square, and prolong the life of those poor, mutilated, unhappy looking trees, which have no arms to shelter their trunk and their roots from the snow and sleet of winter, and the scorching heats and droughts of summer.

Officer.—Say no more—say no more,—I am mad with vexation at the mischief which is done. Only let those who are, like myself, ignorant, understand the rationale of the thing, and then an immediate stop shall be put to the axe and the saw.

Horticulturist.—You will rejoice the heart of all those who have taste and feeling by doing so, and depending on this, your promise, I shall leave your beautiful city with less regret. On what point do you want further information?

Officer.—I want to know, in the first place, why a wound from a separated limb heals more slowly when the annular swelling at the base has been entirely removed; secondly, what composition or plaster should be applied to the wound; and, thirdly, at what season of the year should trees be trimmed? I perceive that they are cutting off the limbs of the trees at this moment in Washington Square, and we must be expeditious.

Horticulturist.—If you loosen a strip of bark, of an inch width, from the end of an under branch of the paper mulberry, and make an incision on each side of this inch strip, down to the extremity of the first set of long roots, (first losing the earth from it,) you will find that the sap vessels extend in one uninterrupted line, from the tip of the branch to the end of the root. I mention the paper mulberry because the bark is of a tougher nature than that of other trees; but the vessels continue on in one unbroken line in the bark of

all trees. It follows, therefore, that when the sap arrives at the edge of the large wound, made by the separated branch, it cannot, as far as that wound extends, rise any higher. The sap vessels, in this case, both above and below the wound, only act in a lateral direction. The edge of the lower and upper side becomes flattened, and the vessels are hermetically sealed by the adhesion of the edge to the inner bark. The process of healing goes on slowly, therefore, because it proceeds entirely from the side edges. This fact can be substantiated by cutting a square hole—a hole of two inches diameter—quite into the bark of a rapidly growing tree, such as a pear or cherry. In a few days the healing process commences, but only at the edges of the sides. In the course of a few weeks, if the bark is cut out in April, the wound is healed, and the cicatrice is rather of an oblong form. Even if the hole is circular, provided it be of two or three inches diameter, the scar is a mere slit. This is not the case if the swelling at the base of a limb be left on the trunk, for although the vessels are separated, as in the event of cutting off the annular ring entirely, yet as the matter, which is to heal wounds, and repair waste, lies in this annular ring, the healing process goes on rapidly, and as it is continued all around the ring, the wound heals on all sides, and the scar has the appearance of a small round indenture.—As to the composition to be used as a plaster for covering a wound, the most efficacious and simple is cotton. A pledget of cotton an inch or two in thickness, placed over the whole wound, and tied on with the cheapest muslin or wrapping, is the readiest and the most durable covering. We used formerly to make a plaster according to Forsyth's rule, but it is not suited to our hot and variable summer. And, lastly, April is the best month for trimming trees. You must take it on trust that this is so, for it would be unsuited to the conversation just now to go into the why and wherefore. I shall only observe that nature is very busy in the spring in marshalling her forces, and in appointing her means, and that while she is in the humor of distributing the proper juices to every section of a plant, the wound of a tree comes in for a share. Later in the season, a different order of things prevails, and a wound is dependent on or a less liberal source. In winter a tree should never be trimmed. Will this do?

Officer.—Yes, I am quite satisfied that we have acted like savages in suffering those beautiful trees to be thus mutilated—now the only thing left for us to do, is to have all the stumps, which now protrude from the trunks cut off neatly, and cover the largest wounds with a shield of cotton. Stay with us one day longer, and you will not only see this done, but you will find that the work of mutilation has stopped. But only one question more—how often should the grass in that enclosure be cut.

Horticulturist.—Every week, if possible, and for a two-fold reason, grasses extricate themselves from the soil in the quickest way. Grasses, being succulent and of rapid growth, afford an easy mode of exit to gases, for, like fluids, they prefer a conducting medium to rise into space. They therefore leave the roots of the tree to ascend by means of the ductile vessels of grass, but if the sap vessels of the grasses are kept shut by frequent cutting, for the divided vessels of vegetables always collapse, then the next easiest mode of extricating themselves from the fermentation or decomposition underneath, is to fly to the springlets of the roots of trees. Grasses, therefore, both for beauty and real service, should be kept closely cut. They should never be suffered to run to a finish or point—you must take this upon trust too. I am afraid the poor man who cuts the grass in your beautiful square will grumble at me, for in this way he cannot get two crops of hay. You must allow him a ton or two, if he promises to keep hands off the trees. I hope this does not appear too learned a talk, does it? There was no way of answering your questions but by letting you a little into the arcana of natural

science.—But hasten, for there goes the executioner;—see, he has the axe and the ladder.—Trois Echelies was merciful to him.

X.

(From the Gencsee Farmer.)

CULTURE OF HOPS.

One of our subscribers having requested us to publish some directions for the culture of hops, we copy the following from the Northern Farmer, an agricultural paper, published at Newport, New Hampshire. Should the following directions be found insufficient, if our friend will point out the deficiency to us, we will explain any part of the process to his satisfaction. It may be well here to mention to our readers, that there has been an increased demand for the article this season, in consequence of many of the hop growers in the eastern counties having ploughed up their yards, the prices for several seasons past not having been such as to warrant their cultivation. Those farmers in this neighborhood who have hops unsold would do well to consult this market before sending them east, as a few tons are much wanted for the neighboring breweries.

We have in a former number of the Farmer, presented some considerations in favor of a more extended culture of the hop; and, as the great profits realized by the cultivator, on this article, the present season, is presumed to have invested the subject with an interest, sufficient to induce the intelligent agriculturist to examine whether it may not with profit, be made a more general subject of field culture, we have again presented the subject to our readers; presuming that a brief botanical description of this plant, a few facts in relation to its history, and a more particular account of the best mode of cultivating it, would not be unacceptable at this time.

Botanical Description.—“*HUMULUS*, the *hop*, a genus of the pentadria order, in the diœcia class of plants, and in the natural method ranking under the 53d order, scædriæ. The male calyx is pentaphyllous; there is no corolla; the female calyx is monophyllous, patent obliquely, and entire; there is no corolla, but two styles, and one seed within the calyx, the latter consisting of one large leaf. There is only one species, viz: the lupulus, which is sometimes found wild in the hedges near houses and gardens, but probably is not indigenous” [in Britain.] “The stalk is weak and climbing; it creeps up the support in a spiral, ascending always from the right hand to the left.”

History.—Hops are said to have been first brought into England from the Netherlands, in the year 1524. They are first mentioned in the English statute book, in the year 1532; and by a statute of the first year of James I. anno 1603, it appears that hops were then produced in abundance in England. “The hop being a plant of great importance, we shall,” says an English writer, “consider what relates to the culture and management of it under distinct heads.”

Of Soil.—“As for the choice of soil, the hop planters esteem the richest and strongest ground the most proper; and if it is rocky, within two or three feet of the surface, the hops will prosper well; but they will by no means thrive on a stiff clay or spongy wet land.”

To Plant Hops.—“In the winter time, provide your manure for the hop ground against the following spring. If the dung is rotten, mix it with two or three parts of common earth, and let it incorporate together till you have occasion to make use of it in making your hop-hills; but if it is new dung, then it is to be mixed as before till the spring in the next year: for new dung is very injurious to hops.”

“Hops require to be planted in a situation so open, as that the air may freely pass round and between them, to dry up and dissipate the moisture, that they may not be so subject to fire blasts which often destroy the middle of large plantations, while the out-sides remain unharmed.”

"The hills should be eight or nine feet asunder, that the air may freely pass between them. If the ground is intended to be ploughed with horses between the hills, it will be best to plant them in squares, chequerwise; but if the ground is so small that it may be best cultivated with the spade, the holes should be ranged in the quincunx form. Which way soever you make use of, a stake should be stuck down at all the places where the hills are to be made.

"Farmers should be very particular in the choice of the plants, as to the kind of hop; for if the hop-garden is planted with a mixture of several sorts of hops that ripen at several times, it will cause a great deal of trouble, and be a great detriment to the grower. The two best sorts are the white and grey bind; the latter is a large square hop, more hardy, and is the more plentiful bearer, and ripens later than the former. There is another sort of the white bind, which ripens a week or ten days before the common; but this is tenderer, and a less plentiful bearer; but it has this advantage, that it comes first to market.

"If you have a sort of hops you highly value, and would increase plants and sets from them, the superfluities binds may be laid down when the hops are dried, cutting off the tops, and burying them in the hill; or when the hops are dressed, all the cuttings may be saved; for almost every part will grow, and become a good set the next spring."

As to the seasons of planting hops, the months of October and April (May in the northern parts of New England) are best approved of. The most usual time, however, of procuring sets, is in April or May, when the hops are cut and dressed.

As to the manner of planting the sets—there should be five good sets planted in each hill, one in the middle, and the rest round about, sloping.

Dressing.—This operation should be performed in the spring as soon as the ground is sufficiently dry, and before the stock begins to put forth branches.

The most favorable time in New England for this operation is generally from the middle of April to the beginning of May. Having cleared away the earth out of the hills, so as to lay bare the stock to the principal roots (observing great caution not to break or wound the roots) with a sharp knife, cut off all the shoots which grew up with the bind the last year; "and also all the young suckers, (if any have already started), that none be left to run in the alley and weaken the hill. It will be proper to cut one part of the stock lower than the other, and to cut that part low that was left highest the preceding year. In dressing hops that were planted the year before, you ought to cut off both the dead tops and the young suckers which have sprung up from the sets, and also to cover the stocks with fine earth, a finger's length in thickness."

The Poling.—About the latter part of April the hops are to be poled, when the shoots begin to sprout up. The poles must be set to the hills deep in the ground, with a square iron picker or crow, that they may the better endure the winds, due caution being observed not to injure the principal roots; three poles are sufficient for one hill. These should be placed as near the hill as may be, without injury to the roots, with their bending tops turned outward from a perpendicular position, to prevent the binds from entangling; and a space between two poles ought to be left open to the south, to admit the sunbeams.

The Tying.—"As to the tying of hops, the binds that do not clasp of themselves to the nearest pole, when they are grown to three or four feet in length, must be guided to it by the hand, turning them to the son, whose course they will always follow." They must be bound with withered rushes, but not so close as to injure them by the tightness of the ligature. This you must continue to do till all the poles are furnished with binds, of which two or three are enough for a pole; and all the sprouts and binds that you have no occasion for, are to be plucked up; but if the plantation is young, then none of these useless

binds should be plucked up, but should be wrapped up together in the middle of the hill.

Gathering.—"About the beginning of July, hops begin to blow, and will be ready to gather about Bartholomew tide, (24th August.) A judgment may be formed of their ripeness by their strong scent, their hardness, and the brownish color of their seed. When by these tokens they appear to be ripe, they must be picked with all the expedition practicable; for if at this time a storm of wind should come, it would do them great damage, by breaking the branches, and bruising and discoloring the hops; and it is very well known that hops being picked green and bright, will sell for a much higher price, than those which are discolored and brown.

"The most convenient way of picking them, is into a long square frame of wood called a bin, with a cloth hanging on tenter hooks within it, to receive the hops as they are picked.

"The hops must be picked very clean, i. e. free from leaves and stalks; and, as there shall be occasion, two or three times a day the bin must be emptied into a hop-bag made of coarse linen or hempen cloth, and carried immediately to the oast or kiln in order to be dried; for if they should remain long in the bin or bag, they will be apt to heat and be discolored. If the weather is hot, there should no more poles be drawn at a time than can be picked in an hour, and they should be gathered in fair weather, if it can be, and when the hops are dry; this will save some expense in firing, and preserve their color better when dried.

Drying.—"The best method of drying hops is with charcoal, on an oast or kiln, covered with hair-cloth; of the same form and fashion that is used for drying malt. There is no need to give any particular direction for making these, since every bricklayer in those countries where hops grow know how to build them. The kiln ought to be square, and may be ten, twelve, fourteen or sixteen feet over at the top, where the hops are laid, as your plantation requires, and your room will allow. There ought to be a due proportion between the height and breadth of the kiln and the beguils of the steddle where the fire is kept; viz: if the kiln is twelve feet square on the top, it ought to be nine feet high from the fire, and the steddle ought to be six feet and a half square, and so proportionate in other dimensions.

"The hops must be spread even upon the oast a foot thick or more, if the depth of the curb will allow it; but care is to be taken not to overload the oast, if the hops are green or wet. The oast ought to be first warmed with a fire before the hops are laid on, and then an even steady fire must be kept under them; it must not be too fierce at first, lest it scorch the hops, nor must it be suffered to sink or slacken, but rather be increased till the hops are nearly dried, lest the moisture or sweat which the fire has raised, fall back and discolor them. When they have lain about nine hours, they must be turned, and in two or three hours more, they may be taken off the oast. It may be known when they are well dried, by the brittleness of the stalks, and the easy falling off of the top leaves.

Bagging.—"As soon as the hops are taken off the kiln, lay them in a room for three weeks or a month, to cool, give and toughen; for if they are bagged immediately, they will powder, but if they lie a while (and the longer they lie the better, provided they are covered close with blankets to secure them from the air) they may be bagged with more safety, as not being liable to be broken to powder in treading; and this will make them bear treading the better; and the harder they are trodden the better they will keep."

A GREAT HOG.—The Farmer and Mechanic says, "A hog is now exhibiting in this city, three years and two months old, said to weigh fourteen hundred pounds, raised by Mr. John Saterthwaite, of Warren county, in this state, (Ohio.)"

(From the Genesee Farmer.)

SEED ONIONS.

One of our subscribers makes inquiries about seed onions, or raising onion seed.

For raising onion seed, select ground that is not too dry and sandy, as onions thrive best in a moderately damp and strong soil; let the soil be well prepared by manuring and deep ploughing, laying it out into beds about three and a half or four feet wide. Into these beds, about the last of October, or fore part of November, let the onions intended for seed be placed; in drills five or six inches deep, and from eight to twelve inches from each other either way. For planting, select the best shaped onions of the variety wished; let them be set in the drills as when growing, and covered with fine earth. Onions planted in the fall are found to produce better than when planted in the spring; and when the ground is kept in good order, they will produce as well the second year as the first, after which time they are found to suffer. In April the leaves will have appeared above the ground, when they should be carefully hoed, and the ground kept light and clear of weeds, until the seed stalk shoots up. As soon as this happens, there should be a sufficient number of stakes driven into the earth near the outside rows, to which cords or lath may be fastened to support the seed stalks, which would otherwise be broken by the wind. Whether cords or lath are used, there should be many cross supports as well as those running lengthwise of the beds.

After the seeds have become ripe, the heads should be cut off and laid by carefully until dry, when they should be threshed, and the seeds separated from the chaff.

(From the Albany Argus.)

HINTS TO FARMERS.

Dec. 19, 1832.

The garden is at once a source of profit, of substantial comfort, and of high intellectual gratification. Its fruits and its vegetables constitute the most grateful delicacies of our tables. Its flowers exhibit the exquisite pencilings of nature, calculated to gratify our senses, and to awaken the finer feelings of our nature. Its employments elevate the mind, reveal to it new sources of delight, and give health and vigor to the body. Its charms are alike calculated to temper the passions of youth, and to solace the infirmities of age. In fine, its pleasures afford one of the best illustrations we can possess, of the happiness of our first parents in their primeval abode. So apt am I to couple in my mind the culture of the garden with whatever is commendable in life, that I never, in travelling from home, see a neatly cultivated spot of this kind, without intuitively imputing to its cultivator the active exercise of the social and relative virtues.

Half an acre of well cultivated garden, will go farther towards subsisting a farmer's family, than perhaps any three acres upon his farm, with the further advantage that while its products serve to gratify a diversity of tastes, they materially contribute to secure the blessings of health. Its labors may be managed by those who are too young or too old to share in the heavier toils of the field, by the female inmates of the family and the occasional aid of the workmen, without impeding the operations on the farm. My first essays at gardening were made during a period of comparative indigence and of active mechanical employment, which left me little but the usual hours of rest to devote to my garden. My rural labor did not infringe upon my ordinary business; and yet I managed to raise, with a trifling expense, all the garden productions necessary for my family. My zeal for improvement in this new business, attracted the attention of that excellent philanthropist, the late Chancellor Livingston, who encouraged my efforts, by presenting me trees and scions of new fruits, which he had recently brought from France.

I budded and grafted, and though my first efforts were bungling, yet I nevertheless succeeded, with the occasional purchase of plants from the nurseries, in establishing in my grounds an excellent assortment of garden and orchard fruit. Thirty years experience has fully satisfied me, that a garden is not only profitable, but that it affords comforts and pleasures which wealth cannot purchase. The passion for rural culture has increased with my years; and I look forward to its employments, should my life be mercifully spared, as the best conservator of health, and the prolific source of future enjoyments.

In many parts of Europe, the garden is not only a common appendage of the farm, but even of the humble cottage; and while these little improvements effect a great economy of labor in furnishing human subsistence, their floral decorations excite peculiar interest and admiration in the traveller, and are the theme of high commendation. In Württemberg, Baden, and some other of the German states, this branch of labor has particularly engaged the attention of the governments, and forms a branch of education in the primary schools. A knowledge of gardening is made an indispensable qualification in teachers of schools, who are required to instruct their pupils, in the hours of vacation, in a garden which is attached to every district school. B.

Prices Current in New York, March 2.

Beeswax, yellow, 18 a 20. Cotton, New Orleans, 11 a 13; Upland, 10 a 11½; Alabama, 10 a 12. Cotton Bagging, Hemp, yd., 13 a 21½; Flax, 13 a 14½. Flax, American, 7 a 8. Flaxseed, 7 bush. clean, 15.00 a 15.25; rough, 14.00 a 14.50. Flour, N. York, bbl. 5.50 a 5.75; Canal, 6.00 a 6.37; Balt. How'd st. 5.50 a 5.75; Rh'd city mills, — a —; country, 5.38 a 5.50; Alexandria, 5.58 a 5.75; Fredericks', 5.38 a 5.50; Peters', new, 5.38 a 5.50; Rye flour, — a —; Indian meal, per bbl. 3.75 a —; per hhd. 17.00 a —. Grain, Wheat, North, — a —; Vir. — a —; Rye, North, 38 a 41; Corn, Yel. North, .65 a .68; Barley, — a —; Oats, South and North, — a —; Peas, white, dry, 7 bu. 5.00 a —; Beans, 7 bu. 8.00 a 9.50; Provisions, Beef, mess, 8.25 a 6.75; prime, 5.25 a 5.75; cargo, — a —; Pork, mess, bbl. 12.50 a 13.50, prime, 11.00 a 11.25; Lard, 7½ a 9.

HERBEMONT ON THE VINE AND WINE MAKING

Just published and for sale at the American Farmer Office and Seed Store, "A Treatise on the Culture of the Vine and on Wine Making in the United States. By N. Herbemont, of Columbia, S. C. Accompanied by remarks by the Editor of the American Farmer." Price, 25 cents

SILKWORM EGGS

For sale at the American Farmer Office and Seed Store, at \$1 per thousand. They can be sent safely by mail if ordered immediately, before the weather becomes warm. I. I. HITCHCOCK.

FIELD AND GARDEN SEEDS, &c.

J. S. EASTMAN offers the following Seeds for sale, viz. (LOVER, TIMOTHY, MEADOW OAT GRASS, MILLET, LUCERNE, COW PEAS, LARGE YELLOW PUMPKIN, and EARLY WHITE CORN.

Also a general assortment of GARDEN SEEDS, and WHITE ONION SETS.

Likewise in store, a general assortment of AGRICULTURAL IMPLEMENTS, embracing almost every article in the farming line, which he will sell low for cash or approved city acceptances.

He must decline opening any new accounts, except with those who will be liberal customers, and can give good references; and all such accounts he expects to be promptly settled once a year; and those who have accounts standing on his books over one year, are desired to settle the same. All Grass Seeds must be considered cash. Liberal discounts will be made on all implements purchased by merchants and others to sell again. Feb. 15.

LANCASHIRE GOOSEBERRY PLANTS.

Just received from England the following choice assortment of the celebrated Lancashire Gooseberry Plants, which are offered to the public with confidence in their superior quality, their genuineness, and fine condition. They will be packed so as to be carried safely any distance; but those that have to go far would better be ordered without delay. The following is a list of twenty-seven kinds:

WHITE FRUIT.—Capper's Bonny Lass, Boardman's Smiling Beauty, Holden's White Muslin, Sampson's Queen Ann, Yates' Thrasher, Leigh's Toper.

YELLOW OR AMBER.—Nelson's Waves, Hill's Royal Sovereign, Weedham's Delight, Large Golden Queen, Forbes' Golden Eagle, Sandiford British Favorite.

RED.—Walker's Bank of England, Kirshaw's Fairmaid, Jolly Minor, Dean's Glory of England, Chadwick's Sportsman, Boardman's British Hero, Boardman's Prince Regent, Fletcher's Crown Regent, Millington's Crown Bob, Eckerly's Jolly Priester, Bell's Glorious, Bratherton's Overall.

GREEN.—Hopley's Shannan, Parkinson's Laurel, Allan's Glory of Rathlin.

These plants have been carefully selected from the best sources by a competent person, and are truly fine. Several of these varieties are sold from the gardens at from 50 cents to \$1 per plant, (they are all superior kinds,) but I offer them as follows:

Purchasers may select at 40 cents each, or thirteen plants for \$5. When the selection is left to us we will send three plants for \$1, or sixteen for \$5. The number of each kind is very limited.

BUFFALO BERRY TREE OR SHEPHERDIA OF THE ROCKY MOUNTAINS.

When our friends send to us for Gooseberry Plants we can very conveniently pack with them one or more of these truly splendid trees, which, when in bearing, are literally loaded with delicious red berries, resembling the Antwerp Currant, and set as thickly on every twig as kernels of corn on the ear. Price \$1 each.

ANTWERP RASPBERRY AND CURRANT BUSHES.—GENUINE.

Just received a few plants of the Red Antwerp Raspberry, best kind, at 25 cents each, or \$2.50 per dozen. Common kind usually known by this name, and bearing fine fruit, 12½ cents each, \$1.25 per dozen, or \$8 per hundred.

Genuine Antwerp or Large Dutch Currants, 25 cents each, or \$2.50 per dozen.

I. I. HITCHCOCK.
American Farmer Office and Seed Store.

CHOICE MERCER POTATOES FOR SALE.

I can furnish a small quantity of Mercer Potatoes of superior quality for seed, at \$1 per bushel.

I. I. HITCHCOCK,
American Farmer Office and Seed Store.

SINCLAIR AND MOORE'S NURSERY.

The Proprietors are about to clear a part of the ground, now occupied with white Mulberry Trees, in order to plant other articles, to which the exposure is peculiarly adapted, in consequence will dispose of them at very reduced prices;—after these are sold the regular price will be ten dollars per hundred for trees eight to ten feet high.

They also offer for sale at reduced prices an extensive assortment of Ornamental Trees and Shrubs, viz. kinds of hardy Rose Bushes, (among which is the much admired Greville,) double Altheas, Honeysuckles, Corcorus, Lilac, Snowberry and Buffalo Berry Trees, Chinese Alanthus, white flowering Horsechestnut, and silver leaved Maple, all of large size, (the latter is a beautiful shade tree,) large red and white Dutch Currant, red and white Antwerp and other Raspberry Bushes, Strawberry Plants assorted, (large plants raised carefully for sale,) white and black Walnut, Quinces assorted, Peach Trees, a large stock of very superior kinds, Apple, Plum, Pear, Cherry and Nectarine Trees, Grape Plants and Cuttings of several varieties, Asparagus and Hop Roots, and Thorns for hedging.

Apply at the Nursery, or at their store, corner of Pratt and Light streets.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—The market remains without change. A few sales of flour have been made at our quotations. The wagon price of Howard street is \$5 a \$5.12. There is no grain arriving except by wagons, and that, of course, in very small parcels.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—do. rop, common, 8.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 15.00; yellow and red, 3.00 a 15.00; yellow, 16.00 a 20.00.—Fine yellow, 18.00 a 25.00; yegina, 4.00 a —. Italian, 18.00 a 20.00.—Kentucky, 3.50 a —. Rye, 70 a —. Corn, 4.00.—inspections of the week comprise 241 hds. Md.; 22 hds. Ohio; and 3 hds. Vir.—total 266 hds.

FLOUR.—best white wheat family, \$6.75 a 7.25; super Howard-street, 5.12½ a 5.25; city mills, 5.00 a 5.12½; city mills extra 5.15½ a —. Common Meal, bbl. 5.50; —. GRAIN, best red wheat, 1.00 a 1.05; white do. 1.05 a 1.10; —. Corn, white, 55 a 58, yellow, 55 a 58.—Rye, 70 a —. Oats, 40 a 41.—BRANS, 75 a 80.—FEAS, 63 a 70.—CLOVER-SEED 8.00 a —. TIMOTHY, —. —. Orchard Grass 2.00 a 2.25.—Tall Meadow Oat Grass 2.00 a 2.50.—Herd's, 75 a 87½.—Lucerne a 37½ lb. BARLEY.—FLAXSEED 1.50 a 1.62.—COTTON Va. 10 a 12.—Lou. 12 a 18.—Alab. 10 a 11½.—Tenn. 10a. 12; N. Car. 10 a 12; Upland 10 a 12.—WHEAT, hds. 1st p. 28½ a —. in bbls. 28½ a 30.—Wool, Washed, Prime or Saxony Fleeces 45 a 50; American Full Blood, 38 a 42; three quarters do. 33 a 38; half do. 30 a 33; quarterdo. 28 a 30; common 25 a 28. Unwashed, Prime or Saxony Fleeces, 25 a 30; American Full Blood, 22 a 25; three quarters do. 20 a 22; half do. 18 a 20; quarterdo 16 a 18; common, 16 a 18. Hemp, Russia, ton, \$200 a 215; Country, dew-rotted 6 a 7c. lb. water-rotted, 7 a 8c.—Feathers, 37a 38; Plaster Paris, per ton, 5 00 a — ground, 1.50 a —. bbl. Iron, grappis for foundries per ton 38.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 17.50 a 35.00.—Prime Beef on the hoof, 5.00 a 6.25.—Oak wood, 4.00 a 4.50; Hickory, 5.50 a 6.00; Pine, 2.25.

CONTENTS OF THIS NUMBER.

Editorial; Close of the Fourteenth Volume; Answer to Queries on making Oil from the Seeds of Sunflowers; Obituary notice of the death of Richard K. Meade, Esq. of Frederick County, Virginia.—The Fireside Reflections of a Buckingham (Virginia) Farmer on the Improvement of Agriculture—On the Cultivation of Corn—Culture of Mangold Wurzel as a Field Crop—On the Smut in Wheat, and the Cause of it—Dialogue between a City Officer and a Practical Horticulturist on Planting and Pruning Trees—On the Culture of Hops; Botanical Description; History; Proper Soil; To Plant; Dressing; The Poling; The Tying; Gathering; Drying; Bagging—Great Hog—Raising Seed Onions—Hints to Farmers on Gardening—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

GENERAL

Agricultural and Horticultural Establishment:

COMPRISING,
A Seed and Implement Store, a General Agricultural Agency, and the Office of the AMERICAN FARMER, at No. 16 South Calvert street, Baltimore: in connexion with a Stock and Experimental Farm, Garden and Nursery in the vicinity.

For an extra number of the Farmer, containing a prospectus of the "Establishment," and a "Catalogue of Seeds," &c. kept for sale, shall be sent GRATIS to any person who shall by mail or otherwise furnish his address for that purpose.

AGENTS FOR THE FARMER.—All postmasters are requested to act as agents for the Farmer, and to require a strict compliance by subscribers with the terms, especially the third item. They are authorized to retain one dollar for each new subscriber, and ten per cent. on all other collections. The list of special agents is published in the Farmer every third week. (Terms next week.)

DIRECTION OF LETTERS.—Address all BUSINESS letters concerning the Farmer, the store, or the agency, to the proprietor, "I. I. Hitchcock, Baltimore, Md."

Printed by J. D. Day, corner of St. Paul and Market streets.











